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FIFTH PART

ASIA AND AFRICA

WITH

REVIEW OF NORTH AMERICA

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WITH NUMEROUS MAPS AND MANY ILLUSTRATIONS, CHIEFLY PHOTOGRAPHS OF ACTUAL SCENES

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TABLE OF CONTENTS

PART IV. ASIA, AFRICA, AUSTRALIA, AND ISLAND GROUPS

PAGE

SECTION XXI. ASIA 353

SIZE AND POSITION, 353. PHYSIOGRAPHY, 354. CLIMATE, 358. PLANTS AND ANIMALS, 359. PEOPLE, 363. TURKISH OR OTTOMAN EMPIRE, 365. (*Conditions in the Empire*, 366; *The Holy Land*, 369; *Mesopotamia*, 372.) ARABIA, 372. PERSIA, 374. AFGHANISTAN, 376. RUSSIA IN ASIA, 378. INDIA, 381. (*Physiography and Climate*, 381; *Farming*, 382; *Forest and Wild Animals*, 384; *Domestic Animals*, 385; *Mining and Manufacturing*, 386; *Famines and Plagues*, 386; *People*, 387; *Religion*, 387; *Government*, 388; *Baluchistan and Burma*, 390; *Base of Himalayas*, 390; *Other Countries*, 390; *Principal Cities*, 391.) CEYLON, 393. INDO-CHINA AND THE MALAY PENINSULA, 393. (*Siam*, 394; *French Indo-China*, 395; *Straits Settlements*, 395.) CHINESE EMPIRE, 396. (*Area and Population*, 396; *Climate*, 397; *People and Civilization*, 398; *Natural Resources*, 402; *Government*, 403; *Principal Cities*, 404.) KOREA, 405. JAPAN, 405. (*Physiography and Climate*, 406; *People and Government*, 407; *Recent Advance*, 408; *Resources*, 410; *Principal Cities*, 410.)

SECTION XXII. AFRICA 415

PHYSIOGRAPHY, 415. CLIMATE, 417. PLANTS AND ANIMALS, 419. THE PEOPLE, 422. EXPLORATION AND SETTLEMENT, 424. **Northern Africa.** POLITICAL DIVISIONS, 427. THE SAHARA, 427. EGYPT AND NEIGHBORING BRITISH TERRITORY, 430. (*The Nile*, 430; *Agriculture*, 433; *The People*, 434; *Suez Canal*, 438; *Cities*, 439.) THE BARBARY STATES, 440. **Southern Africa.** COMPARISON WITH NORTHERN AFRICA, 444. THE PEOPLE, 445. AGRICULTURE AND GRAZING, 446. MINERAL WEALTH, 448. COMMERCE AND CITIES, 449. **Central Africa.** THE RIVERS, 451. RESOURCES, 453. THE PEOPLE, 453. DIVISIONS OF CENTRAL AFRICA, 455. NEED OF RAILWAYS, 457. **Islands near Africa**, 458.

SECTION XXIII. AUSTRALIA AND ISLAND GROUPS 461

Australia. PHYSIOGRAPHY, 461. CLIMATE, 464. PLANTS AND ANIMALS, 466. HISTORY, 468. SHEEP RAISING, 471.

PAGE

Animal Products, 473. Farming, 474. Mining, 475. Manufacturing, 475. Cities, 476. **Island Groups.** New Zealand, 478. The East Indies, 480. Islands of the Pacific, 482.

Section XXIV. Review of North America 487

Growth of the Continent, 487. **The United States.** Physiography, 488. Climate, 492. Industries, 493. *Lumbering*, 493; *Fishing*, 495; *Agriculture and Related Manufacturing*, 495; *Mining and Manufacturing dependent upon Mining*, 504; *Manufacturing*, 510; *Commerce*, 511. Government, 514. **Outlying Territories and Dependencies of the United States.** Alaska, 515. Cuba and Porto Rico, 515. Hawaiian Islands, 515. Guam and Samoa, 516. Philippine Islands, 516. **Countries North of the United States.** Canada and Newfoundland, 516. Islands North of North America, 518. **Countries South of the United States.** Mexico, 519. Central America, 520. Islands, 521.

Section XXV. The United States in Comparison with Other Countries 523

Area and Population, 523. Leading Raw Products, 524. Manufacturing and Commerce, 530. Dependence upon other Nations, 533. Exports and Imports, 537. Reasons for the Rank of the United States, 540.

Appendix I. References to Books, Articles, etc. . . 542

Appendix II. Tables of Area, Population, etc. . . . 548

LIST OF MAPS

COLORED POLITICAL MAPS

			PAGE
241.	Asia	*Facing*	353
258.	Holy Land	"	370
297.	Africa	"	415
338.	Australia	"	461
356.	North America	"	486
357.	United States	"	486
358.	New England	"	486
359.	Middle Atlantic States	"	486
360.	Southern States	"	486
361.	Central States	"	486
362.	Western States	"	486
398.	Canada	"	517
434.	The Hemispheres	"	542
435.	Mercator Chart of World	"	542

RELIEF MAPS

243.	Asia	*Facing*	355
298.	Africa	"	416
339.	Australia	"	462
363.	North America	"	486
366.	United States	"	490

CITY MAP

313. Cairo and Vicinity 432

MAPS ILLUSTRATING CLIMATE

299. Vegetation Zones of Africa 418
341. Isotherms of Southeastern Australia, January . . 464

PAGE

341. Isotherms of Southeastern Australia, July . . . 464
367. Rainfall of United States 492

PRODUCT MAPS

368. Principal Forest Regions of the United States . . 493
369. Fishing Grounds near North America 494
371. Principal Corn-raising Districts of the United States. 496
372. Principal Oat-raising Districts of the United States . 496
374. Principal Wheat-raising Districts of the United States 497
381. Principal Cotton-raising Districts of the United States 501
384. Principal Tobacco-raising Districts of the United States 503
385. Principal Fruit-raising Districts of the United States 503
386. Coal Fields of the United States 504
389. Principal Iron, Copper, Oil, and Gas Districts of the United States 506
390. Principal Gold and Silver Regions of the United States 508
404. World Map for Corn 524
405. World Map for Wheat 525
407. World Map for Cotton 526
409. World Map for Sheep and Cattle 526
411. World Map for Coal 527
413. World Map for Iron 528
415. World Map for Silver 529
417. World Map for Gold 530
419. World Map for Petroleum and Rubber 531
420. Manufacturing Districts of the World 531
425. World Map for Coffee 534
427. World Map for Beet and Cane Sugar 534
429. World Map for Raw Silk 535
431. World Map for Tea 536
432. World Map for Rice 536

DENSITY OF POPULATION MAPS

253. Asia 365
304. Africa 423
347. Australia 470

PAGE

393. Distribution of Cities and Towns in the United States 510
397. North America 514

RAILWAY, COMMERCIAL ROUTES, AND COLONY MAPS

394. Railways of North America . . . . *Facing* 511
395. Railways of Eastern United States . . . " 512
396. Navigable Rivers of the United States 513
433. Leading Transportation Routes of the World . . 538

OTHER MAPS

364. The Great Ice Sheet of the United States . . . 487
365. The Fall Line of Eastern United States . . . 489
399. The Countries of Central America 520
400. The West Indies 522

ASIA.
Comparative Area.
PENN.
45,215 Square Miles.
Scale of Miles.
0 500 1000
Cities with over 1,000,000: .... Canton
Cities with 500,000 to 1,000,000: Calcutta
Cities with 200,000 to 500,000: . Manila
Smaller Places: ..... Jerusalem
Capitals with less than 200,000: Maskat
Capitals of Countries: ⊙ Other Places: •
ARCTIC
EUROPE
RUSSIA
CENTRAL ASIA
PERSIA
ARABIA
AFRICA
INDIAN
Arctic Ocean
North Sea
Mediterranean
Black Sea
Caspian Sea
Aral Sea
Lake Balkash
Persian Gulf
Red Sea
Gulf of Aden
Arabian Sea
Nile R.
Euphrates R.
Tigris R.
Indus R.
Ob R.
Volga R.
Ural Mountains
Kirghiz Steppes
Hindu Kush Mts.
Elburz Mts.
Suez Canal
London
Paris
Berlin
Vienna
Rome
St. Petersburg
Moscow
Constantinople
Alexandria
Cairo
Damascus
Jerusalem
Baghdad
Teheran
Bokhara
Samarkand
Khiva
Tashkend
Kabul
Afghanistan
Khelat
Baluchistan
Maskat
Aden
Mecca
Delhi
Lahore
Cashmere
Bombay
Hyderabad
Madras
Colombo
C. Comorin
C. Guardafui
Tobolsk
Nova Zembla
North Cape
Cyprus
Crete
Sea of Azof
Aral Sea
Yarkand
Kuenlun
Himalaya
Hindustan
Lucknow
Benares
Oman
Persian Gulf
Red Sea
Gulf of Aden
Arabian Sea
Indian Ocean
Longitude East 80° from
10° 0° 10° 20° 30° 40° 50° 60° 70°
30° 40° 50° 60° 70°

FIG

OCEAN
NEW SIBERIA ISLANDS
Lena R.
Yakutsk
ARCTIC CIRCLE
Lena R.
Stanovoi Mts.
Okhotsk Sea
KAMCHATKA
Bering Sea
ALEUTIAN ISLANDS (To United States)
KURILE ISLANDS
SAKHALIN ISLAND
Amur R.
Lake Baikal
Yablonoi Mts.
Irkutsk
MANCHURIA
Vladivostok
Japan Sea
YEZO
JAPAN
Tokio
Yokohama
Nagoya
Osaka
Kioto
Mukden
Khin-gan Mts.
Desert of Gobi
MONGOLIA
Port Arthur
Seoul
KOREA
Yellow Sea
Peking
Tientsin
Taiyuan
Hoang-ho R.
GREAT WALL
GRAND CANAL
Lanchau
Singanfu
Shanghai
Yangchau
Nanking
Tungchau
Ningpo
Eastern Sea
Liukiu Is.
Suchau
Hankau
Wuchang
Chengtu
Changsha
Yangtse-kiang R.
Kiangtan
Changking
Suchau
Fuchau
Taiwan
FORMOSA
TROPIC OF CANCER
LADRONE ISLANDS
GUAM (To U.S.)
Changchau
Canton
Hongkong
Foochan
HAINAN
Hanoi
FRENCH INDO-CHINA
Mekong R.
Hue
China Sea
LUZON
Manila
PHILIPPINE ISLANDS
(To United States)
MINDANAO I.
Mandalay
UPPER BURMA
LOWER BURMA
Irrawaddy R.
Rangoon
IAM
Bangkok
Bengal
Gulf of Siam
Saigon
C. Cambodia
BORNEO
EQUATOR
CELEBES
NEW GUINEA
STRAITS SETTLEMENTS
MALAY PENINSULA
Strait of Malakka
SUMATRA
Singapore
180°
170°
160°
150°
140°
130°
120°
110°
90°
60°
50°
40°
30°
20°
10°
0°

Part IV

ASIA, AFRICA, AUSTRALIA AND ISLAND GROUPS

XXI. ASIA

Map Questions (Fig. 241). (1) Compare the greatest length and breadth of Asia with that of North America (Fig. 434). (2) Compare its area with that of other continents. (*For Areas, see Appendix II.*) (3) Where are the mountains; (4) the plains? (5) Draw an outline map of Asia, adding the names and boundaries of the countries. (6) Find four large inland seas and lakes. Which have no outlets? (7) Find the area of China, India, and Siberia. About how many times as large as Pennsylvania is each? (8) What facts concerning the climate do you infer from the map? (9) What does the general absence of railways (Fig. 241) tell about the development of the people? In what part has there probably been most progress? (10) Name some of the large islands near Asia. Name some of the largest islands between Asia and Australia (Fig. 338).

Size and Position. — Asia, the largest of the continents, includes almost one-third of the land of the globe. Its immense size is shown by the fact that it reaches from near the equator to a point halfway between the Arctic Circle and the North Pole. How many degrees is that? How many miles? It is six thousand miles from the Mediterranean Sea to Bering Straits; and so many degrees of longitude are included in Asia that, according to our plan for standard time, one would need to change his

watch ten different times in going from one extreme to the other. How many changes are necessary in crossing the United States? (Fig. 22).

This great land mass, which reaches to within fifty miles of North America, is united to Africa by the Isthmus of Suez,

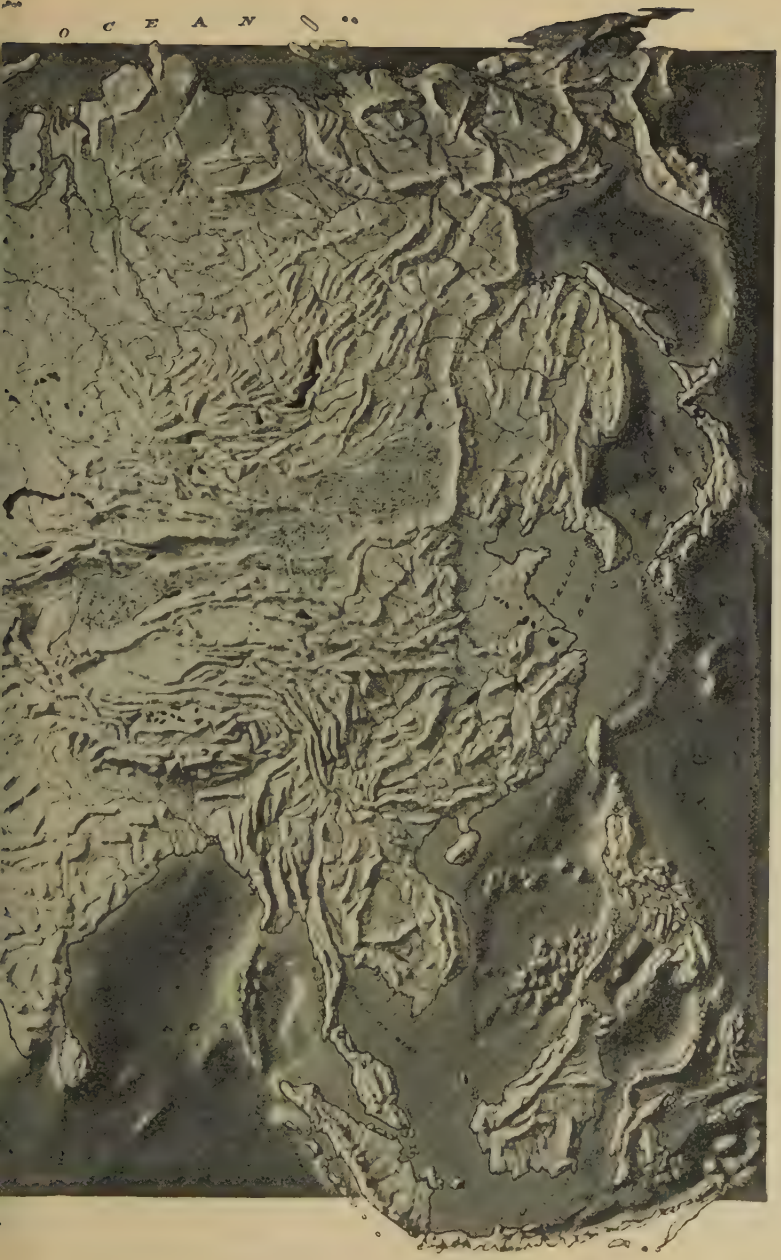
Fig. 242.

The volcano of Fujiyama in Japan.

while for a long distance the two continents are separated only by the narrow Red Sea. What is its connection with Europe? Why are the two often called Eurasia? (p. 149). In what zones does Asia lie? Is the same true of any other continent?

Physiography (Fig. 243). Asia resembles Europe in the irregularity of its mountains. While many of them

NORTH SEA
TROPIC OF CANCER
EQUATOR
RELIEF MAP
OF
EURASIA
Modeled by
EDWIN E. HOWELL
SCALES


OCEAN

extend east and west, there are others running nearly north and south. Name some of each. The islands and peninsulas are due to uplift of the earth's crust, while the seas which they enclose occupy depressions between the uplifted parts. Since the mountain growth has not entirely ceased, many of the islands are still slowly rising; and, as the rocks move and break, earthquake shocks are common, some of them being terribly destructive. There

FIG. 244.
The gorge of the Yangtse-kiang in China.

are also many volcanoes (Fig. 242); in fact, the islands off eastern and southeastern Asia form the most active volcanic and earthquake region in the world.

Although northern and western Asia is a vast plain, so much of the continent is mountainous that more than one-twelfth of the surface has an elevation above 10,000 feet. Here are found the Himalayas (meaning abode of snow), whose loftiest peak, Mt. Everest (29,000 feet), is the highest in the world. Locate it. And here, too, are other ranges whose peaks rise above

valleys themselves 11,000 feet above sea level, or higher than most mountains. Between the mountains are table-lands, like that of Tibet (Fig. 245), whose elevation is from 10,000 to 15,000 feet, or in places as high as the loftiest peaks of the Alps.

FIG. 245.
A farm-house in bleak Tibet, with a snow-capped mountain in the distance.

Much of central Asia is so arid that some of the rivers from the mountains end in the desert sands, which are often heaped by the wind into low hills or dunes. But from the margin of the great central highland large rivers flow north, south, and east to the sea. On an outline map of Asia draw heavy lines to show the chief mountain chains, and then add the larger rivers with their names.

Fed by the rains, snows, and melting glaciers of the mountains, these streams have a great volume of water and bear immense quantities of sediment, which they spread out over their broad flood plains or build into deltas in the sea. In the east and south these fertile, river-made plains are valuable for agriculture, and are the seats of the densest populations in the whole world.

FIG. 246.
A tropical scene in a village in Ceylon.

Many of the rivers are deep and navigable (Fig. 244); yet some of the largest lose much of their value for transportation because they flow northward over the cold plains of Siberia. This reminds us of the rivers of northern Canada, which also flow into the Arctic and are therefore frozen during a large part of the year.

A great variety of mineral wealth is revealed by the weathering of the upturned mountain rocks. Precious stones, including diamonds, sapphires, and rubies; the precious metals, gold, silver, and platinum; the baser metals, such as iron, copper

and lead; and vast coal beds are all found in various parts of Asia. But, because of the peculiar character of the people, the great mineral wealth has been only slightly developed.

Climate. — In so vast a land, with such differences in elevation, there are, naturally, many different climates. Tropical heat is found in southern Asia, with dense forests in the belt of calms (Fig. 246), and in those places where ocean winds blow over the land; but where winds

FIG. 247.

A group of Persian natives on the desert of eastern Asia.

from the ocean cannot reach, there are broad deserts (Fig. 247). Upon the mountain slopes (Fig. 245), and in the more northern latitudes, the climate is either temperate or frigid, as in North America and Europe.

For example, the climate about Peking resembles that of northeastern United States; and the plains of central Siberia resemble in climate the plains of Minnesota and Dakota, and produce the same crops. Such a climate, with warm summers and very cold winters, is called *continental;* and since Asia is the largest continent, the continental climate is best developed there. Thus where the Arctic Circle crosses the Lena River,

the average temperature is 60° in July and 60° below zero in January, a range of 120° between summer and winter. This is the lowest winter temperature known in the world, and this point is therefore called the *cold pole* of the earth.

During the winter, when such a cold blanket of air covers the interior of Asia, the wind blows outward toward the warmer ocean, producing the winter monsoon (pp. 34–37). Accordingly, throughout most of Asia the winter rainfall is light. Why ? But in summer, when ocean winds blow toward the warm land, there is abundant rain near the coast, especially where the damp summer monsoons rise over the mountains, as in India(Fig. 33).

As in northwestern United States, where the Cascade Ranges drain the prevailing westerlies of their moisture, the mountains of Asia cause the summer monsoons to reach the interior with little vapor. It is for this reason that a large part of the interior of Asia is arid, and often such a complete desert that it is shunned by all living things. That this arid country is growing even more arid, is indicated by the fact that the Aral and Caspian seas are surrounded by salt plains formerly covered with shallow water. During the last century the Caspian has grown decidedly smaller, having lost fully seven thousand square miles of its area through evaporation.

Plants and Animals. — The cold northern part of Siberia, like northern Europe and America, is tundra. Describe it (p. 63). Toward the south the tundra grades into the forest, low, stunted trees being followed by true forests of evergreens, birches, poplars, etc. Farther south, where the rainfall is light and the evaporation rapid because of the higher temperature, the soil is so dry in summer that the forests disappear. These steppes are covered with luxuriant grass in the north, but farther south they grade into the desert. Since northern Asia is really a continuation of Europe, the wild plants and animals, as well as the farm products, resemble those

FIG. 248.

Some of the animals of Asia.

of Europe. Name some of the European farm products.

In southern Asia, on the other hand, from Arabia to China, the plants and animals resemble those of Africa rather than those of Europe and northern Asia (p. 68). One reason for this is that southern Asia has a tropical climate like Africa; another is that a mountain and desert barrier separates northern from southern Asia. Trace this barrier on Figure 243. As in Africa, the arid portion, including Arabia, Persia, and central Asia, is the home of the camel (Fig. 248) and ostrich (Fig. 300), while the elephant and rhinoceros (Fig. 248) live on the savannas and in the tropical jungles. Southern Asia is also the home of the fierce tiger and numerous species of monkeys and apes (Fig. 248).

FIG. 249.

The banyan, or Indian fig tree, from whose lower branches shoots descend and take root — common in Ceylon and other parts of southern Asia.

It was in Asia, probably the seat of the oldest civilization of mankind, that men first learned to make use of some of the animals and plants that are now so valuable in all parts of the world. No one knows what race first domesticated the horse, dog, sheep, and several other animals, nor who first cultivated wheat and many other plants; but long before Europe was civilized the people of Asia knew their value. At the time of

Herodotus (about 484–420 B.C.) the people of India grew cotton and wove it into cloth; and they kept sheep, horses, cattle, and goats. Tea and oranges were introduced into Europe from China, and the lemon tree came from India.

The extent to which the Asiatic people have employed animals in their service is indicated by the following facts. On the frozen tundras, where none of the other large domesticated animals thrive, the reindeer (Fig. 48) not only supplies milk, meat, and hides, but is also used as a work animal. The camel, whose original home seems to have been Asia, makes human habitation possible in the desert (Figs. 248, 265, and 283).

FIG. 250.

Native humped cattle used as draught-animals in Burma.

Elephants are domesticated and made to work in the dense tropical forest (Figs. 251 and 277); and the buffalo is used as a work animal in hot, damp lands where horses find the climate trying (Figs. 250 and 274). Among the lofty plateaus and mountains, where the air is so rarefied and the slopes so steep that other work animals cannot be used, the yak is domesticated. Upon the steppes, where herds of cattle, sheep, and goats are kept, the horse is so necessary to the herder that the men almost live in the saddle. Indeed, the word *Cossack*, applied to Russians who dwell on the steppes, means horseman.

People. — Early progress toward civilization was made possible in Asia largely because certain portions were so favorably situated. The flood plains of the Euphrates and of the Indian and Chinese rivers had a fertile soil and an abundance of water for irrigation. They were, moreover, protected from invasion by ocean, desert, and mountain barriers, and the inhabitants could therefore cultivate the arts of peace. Among the shut-in valleys of the lofty mountains, also, were centres where development was possible because so protected from wandering hordes.

FIG. 251.
An elephant in Ceylon drawing a cart loaded with cocoanuts.

Asiatic peoples, moving into Europe, carried the civilization of their old home with them, and in time advanced much beyond those whom they left behind. In fact, while Europeans have been progressing the Asiatics have been standing still, and in some cases even falling back.

It would be difficult to give all the reasons for this last fact, but there are three that are prominent. One is the very isolation which made the first development possible; for the people were so cut off and separated geographically that they failed to learn from others, as those Europeans who dwelt along the Mediterranean were able to do. A second reason is that

many Asiatics, like, for example, the Chinese, have felt that their civilization was the best, and have therefore refused to learn. A third reason is found in the wonderful development of navigation by Europeans who have thereby learned many useful lessons from all parts of the world, acquired wealth, and founded distant colonies. The sea, formerly a protection to many Asiatic people, has, in recent times, even been used as a highway of attack upon them.

Where European civilization has been adopted, as in Japan and parts of India, rapid progress has followed. This indicates the possibilities of these people.

FIG. 252.

Chinese women. Notice the feet of the one on the right. It is a custom of the Chinese to prevent the feet of women from growing.

More than half of the human race lives in Asia, two-thirds of them belonging to the yellow division (p. 73) while the remainder are mainly whites. But although there are more than eight hundred million human beings there, most of the continent is sparsely settled. The mountain slopes, the cold plateaus, the steppes, deserts, forests, and tundras support but few inhabitants (Fig. 253). In these places, hunting, fishing, and herding are the leading industries. Nearly seven-eighths of the people dwell near the coast, especially on the river flood plains and deltas of the south and east. There almost every foot of available land is cultivated, and soil is even transferred to boats on the rivers.

There is a wide difference between the religious beliefs of the Europeans and Asiatics (pp. 93-95). Christianity has spread westward along the shores of the Mediterranean, but it has made little progress across the desert and mountainous land to the east, where earlier religions had a strong foothold. Two-thirds of the Asiatics are Brahmins or Buddhists, as were

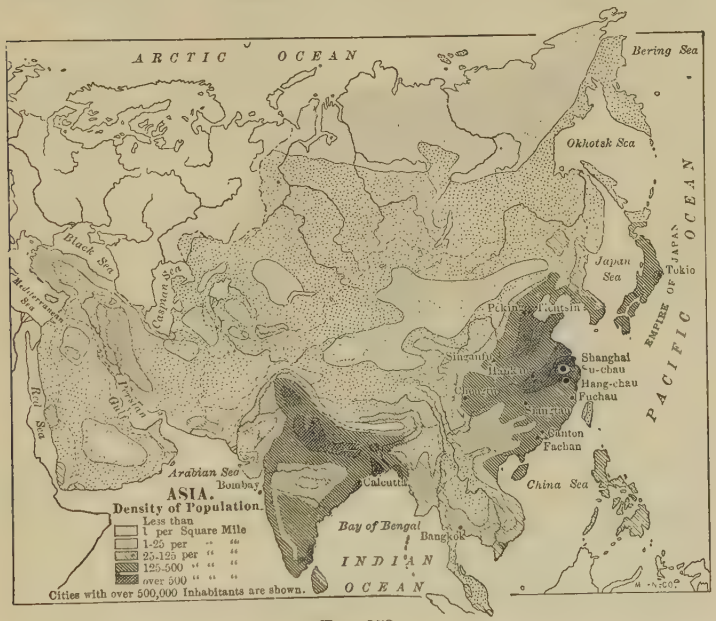


FIG. 253.

their ancestors (Fig. 254). Many others are of the Mohammedan faith, which originated in Asia long after Christ, and has not only replaced the Jewish and Christian religions in most of western Asia, where they started, but has even spread eastward.

Turkish or Ottoman Empire. — While Constantinople, the capital of the Turkish Empire, is in Europe, Turkey has ten times as much land in Asia as in Europe.

Conditions in the Empire.—Turkey in Asia, although of little importance among nations at the present time, is of peculiar interest to us because of its historical associations. It is within its territory that many of the places mentioned in the Bible are located (Fig. 259); here also Christ was born, as well as the prophet Mohammed; and it was from this centre that much of the ancient civilization spread along the shores of the Mediterranean.

Fig. 254.
Worshipping at a Shinto temple in Japan.

Much of Turkey in Asia is table-land, with short mountain ranges and extinct volcanoes, of which Mt. Ararat is an example. Excepting along the coast of the Mediterranean and Black seas, where the wind brings vapor, there is little rainfall. The streams are usually short and shallow, and there are numerous salt lakes. Point out the two principal rivers (Fig. 241).

Some of the mountain slopes are forested, but elsewhere the country is open, and in places suited to herding and agriculture. In the valleys, wheat, grapes, olives, figs, oranges, and cotton are raised, usually by the aid of irrigation. SMYRNA is the most important seaport. Locate it. Find TREBIZOND.

FIG. 255.

Spinning as done in Palestine and other parts of Turkey in Europe.

The inhabitants, though so near Europe, have not advanced as Europeans have. The valuable minerals are scarcely worked at all; herding and farming are carried on in much the same way as in the time of Christ; and there is practically no manufacturing excepting that done by hand (Figs. 255 and 257). Some of this work, however, is very beautiful, as, for example, the Turkish rugs already mentioned (p. 345).

The unfortunate history of the region furnishes an explanation of its lack of development. Asia Minor, the peninsula between the Mediterranean and Black seas, was the pathway

for the ancient caravan trade between Europe and Asia. While this brought prosperity, it also led to many invasions. More than five centuries before Christ the country was conquered by the Persians; two centuries later it came under the control of the Greeks; and later still it became a part of the Roman Empire. After that, with the decline of the Roman Empire, came invasions by wandering Turks, Tartars, and others. It was by this route that the Mohammedan Turks gained a foothold in southwestern Europe, and by their occupation devastated the country. Notwithstanding Mohammedan persecution, many of the inhabitants still profess the Christian religion, although at great cost, as is proved by the recent terrible massacres of the Armenians.

FIG. 256.
A view of Bethany and the mountain slopes near Jerusalem.

There are two parts of Turkey in Asia that merit special mention; namely, the *Holy Land*, and the valley of the Euphrates and Tigris rivers, or *Mesopotamia*.

The Holy Land (Fig. 259). — This part of Turkey in Asia possesses peculiar interest for us. Back of a straight coast, with no good harbors, lies a narrow coastal plain, beyond which are two low mountain ranges including between them the remarkable depression in which the Dead Sea is situated. While Hebron (Fig. 259) is about three thousand feet above sea level, the surface of the Dead Sea, a few miles to the east, is almost thirteen hundred feet below sea level, being the deepest depression on the lands of the world. Although fed by the river Jordan (Fig. 258), which flows out of a fresh-water lake, the Sea of Galilee (Fig. 260), the Dead Sea is so dense from the salt it contains that a person cannot sink in it. The fact that it is salt shows that the climate is arid, for otherwise the depression would be filled with water, and, by overflowing, the sea would soon become freshened. The Jordan Valley lies no farther south than southern Alabama ; yet since it is so low and enclosed, its climate is almost tropical.

FIG. 257.
Armenian women spinning.

Before the coming of the Jews this region was divided into small countries, often under the rule of their more advanced and powerful neighbors, the Egyptians. Then the Jews entered this "promised land" and created a

kingdom which attained its greatest power under Solomon. It was here that many of the events in the Old Testament occurred, including the advance in religion from the belief in many gods to the acceptance of one all-powerful God. Persians, Egyptians, and Romans later ruled over Palestine, and it was during the control of the latter people that Christ was born at Bethlehem. What

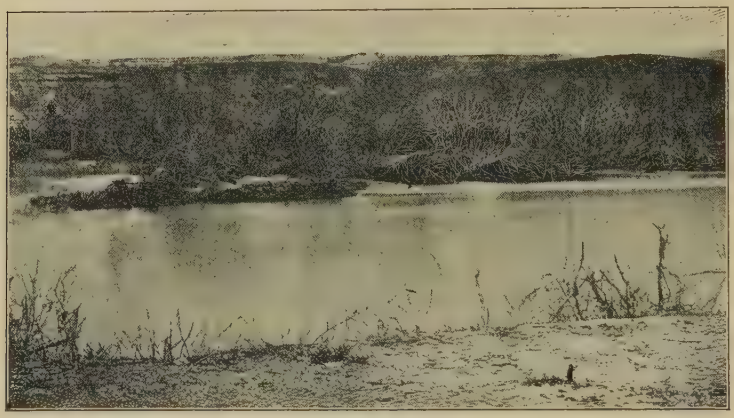


FIG. 258.
The river Jordan.

events in the life of Christ can you mention that occurred at some of the places marked on the map? (Fig. 259).

At that time, as we learn from the Bible, the region was highly developed. Wheat was raised upon the uplands, and olives, figs, and grapes in the valleys, while herds of sheep roamed over the plateaus and mountains. Recall events from the Bible that indicate these occupations. Palestine lay on the great caravan route which, leading from Egypt to the distant East, ran northward as far as DAMASCUS (Fig. 241) in order to avoid the Syrian desert.

HOLY LAND.
Scale of Miles.
0 5 10 15 20 25
Railroads
Highways
Dry River Bed
Part of Jordan Valley below Sea Level shown in purple.
MEDITERRANEAN SEA
Achzib
Kedesh
Waters of Merom
UPPER
GALILEE
GAULANITIS
Ptolemais
Acchô
Chorazin
Bethsaida Julias
Capernaum
Magdala
Sea of Galilee
Damascus
City of Gergesenes
R. Hieromax
Tiberias
Hippos
Mt. Carmel
R. Kishon
Nazareth
Cana
LOWER
Mt. Tabor
Nain
Gadara
Gadaras R.
Dor
Plain of
GALILEE
Esdraelon
Cæsarea
Bethabata?
Arbela
Scythopolis
Beth-Shean
Pella
DECAPOLIS
Salim
Ænon
SAMARIA
Dion?
Plain of Sharon
Samaria
Ænon
Mt. Ebal
Shechem
Sychar
Jacob's Well
Jordan
Gerasa
R. Jabbok
Mt. Gerizim
Antipatris
Joppa
Shiloh
Mts. of Ephraim
Mt. Gilead
Ramoth Gilead
PEREA
Lydda
Bethel
Rabbath Ammon (Philadelphia)
Jabneh (Jamnia)
Emmaus
Jericho
Rama
AMMONITIS
Azotus
Bethphage
JERUSALEM
Mt. of Olives
Bethany
Mt. Nebo
Shephelah
Askalon
Brook Kidron
Bethlehem
JUDÆA
DEAD SEA
Machærus
Hebron
Gaza
Plain of
Mts. of Judæa
R. Arnon
Wady
IDUMÆA
MOABITIS
Beer-sheba
Ghuzzeh
DAROMA
Wilderness of Judæa
34°30′
35°
35°30′
33°
32°30′
32°
31°30′
31°
Longitude East 35° from Greenwich
THE M'NALLY CO., BUFFALO, N.Y.

FIG. 259.

Throngs of people, therefore, passed this way. Jerusalem (Fig. 259), the capital, was a great city, situated upon a lofty elevation that made it an important stronghold.

The city is now visited by many Christians, and also by Mohammedan pilgrims who believe that Mohammed ascended

FIG. 260.
Tiberias on the Sea of Galilee.

to heaven from there. Very little of importance is to be seen, for much of the country, once "flowing with milk and honey," is in ruins. Even the usual mode of travel is by mule or camel, as in olden times, although a short railway climbs the mountains from the sea-coast, at JOPPA, to JERUSALEM, and another follows the old caravan route through NAZARETH, past the Sea of Galilee to DAMASCUS. Trace these two lines. Recently a steamboat has been placed on the Dead Sea for the use of tourists.

Mesopotamia. — This region, including the fertile valleys of the Tigris and Euphrates rivers, has suffered the same fate as the rest of Turkey in Asia. Formerly a country of great resources, crossed by a network of irrigation canals, "a garden of the Lord," it has been devastated by the Arabs and Turks until it is now almost a waste. Babylon and Nineveh, once the seats of a wonderful civilization, are now marked only by mounds of ruins. From these ruins records are at present being unearthed which promise to throw much light upon ancient history.

FIG. 261.
A part of Bethlehem.

There is still some agriculture by irrigation; but, now that the rivers are no longer prevented from overflowing, the fertile plains are for the most part untilled. The sites of the gardens of old are at present either barren desert or fever-breeding swamp; and the nomad has replaced the farmer.

Under such conditions there can be little commerce, though the Tigris is navigable with steamboats as far up as BAGDAD. This city, situated on the caravan route to the east, was of much importance in ancient times. There is still some trade between Europe and India along this route.

Arabia. — This peninsula is a plateau several thousand feet in elevation, with a fringe of mountains (Fig. 263), most prominent in the south and west. What waters

border Arabia? Since the coast line is wonderfully regular, there are few harbors and therefore few coastal cities. Nevertheless, the enclosed seas favored the early development of navigation here as in the Mediterranean. Therefore in very early times Arabian ships carried on commerce with Africa, India, and even with eastern Asia.

The climate is hot along the coast, but cool on the plateau and among the mountains. A great part of the

FIG. 262.
A view in Jerusalem.

interior is desert, and almost everywhere the rainfall is light. Why? (p. 359). What about large rivers? Coffee is raised in the southwest, near MOCHA; the date palm flourishes in many places; and fruits and vegetables are produced in many of the valleys. Myrrh and frankincense, mentioned in the Bible, are obtained from the gums of shrubs that grow on the arid slopes of southern Arabia.

In so unfavorable a climate the population is necessarily sparse and largely nomadic. Cattle, sheep, goats, horses,

donkeys, and dromedaries are raised in large numbers, the three last being celebrated for their excellent qualities.

Most of the Arabian peninsula is independent, though without a well-organized government. Turkey controls the west coast and the Persian Gulf coast as far as *Oman*. Oman, whose capital is the seaport of MASKAT, was formerly an important kingdom; it still has extensive pearl fisheries.

FIG. 263.
A view among the Arabian mountains.

The British have a foothold on the southwestern coast at Aden, one of their most important coaling stations. The city of ADEN, whose excellent harbor is well fortified, is in a great crater surrounded by barren hills (Fig. 264). It is as large as Sacramento, Cal., yet there is not enough rainfall to supply the necessary drinking water, although great reservoirs are built to store it. An additional supply is obtained by condensing the steam made from boiling sea water.

MECCA, a Turkish city about fifty miles from the sea, is sacred to all Mohammedans. It was here that Mohammed was born, and every Mohammedan is supposed to make a pilgrimage to it at least once during his lifetime. Most of these pilgrims come by sea, and every year the city, as well as the roads leading to it, are crowded with them.

Persia. — Like Arabia, Persia is an elevated table-land with large tracts of desert and salt steppes of little or no use to man. The arid climate prevents the formation of large rivers; but the rains and snows of the parallel

mountain ranges permit some irrigation in the broad valleys. There is so little rainfall, however, and evaporation is so rapid during the hot, dry summer, that water for irrigation is often led from the mountains in underground tunnels. Why are tunnels preferable to ditches?

FIG. 264.
A view of a part of Aden from the city water tanks.

The main farm products are tobacco, wheat, barley, cotton, and opium. Much silk is also produced, and roses are cultivated for the manufacture of attar of roses. The principal agricultural portion is near the Caspian Sea, where there is sufficient rainfall for crops and also for extensive forests on the mountain slopes. Among the

mineral deposits is the precious stone turquoise; but there is little mining. Along the coast of both Arabia and Persia precious pearls and pearl shells are found.

Nearly two million Persians belong to nomadic tribes (Figs. 265 and 266) which roam about the desert, dwelling in tents, and herding goats, sheep, and other animals. There is no extensive manufacturing, but the Persians, like the Turks, do some very beautiful hand weaving, as, for example, shawls and rugs. Their carving and inlaid metal and wood work are also wonderfully artistic.

FIG. 265.
A drove of camels in Persia.

The government of Persia resembles that of Turkey and is therefore very bad. The ruler, or *Shah*, an absolute monarch, controls the lives and property of his subjects, who are mostly Mohammedans. TEHERAN, the capital, has some beautiful mosques, though the dwelling-houses are made of sun-dried bricks and face narrow, filthy streets (Fig. 267).

Afghanistan. — This country, "one of the waste places of the world," is a region of sand, bare rocks, and snow-capped

mountains. Only in the valleys is the soil made to yield a harvest; and even there the cold, blustering winters and the dry, scorching summers make one of the worst of climates. Under such unfavorable conditions there has developed a people noted for hardiness, stubbornness, bravery, and cruelty.

FIG. 266.
A Persian nomad girl.

Little is known about Afghanistan. Entrance to the country across the lofty mountain passes and desert sands is exceedingly difficult; and the Afghans have a hatred for all Christians, especially for the British, whom they have fought fiercely. Indeed, it has been said that the boundary between India and Afghanistan should be "drawn in crimson," because of the blood spilt there. Since Great Britain has pushed her Indian frontier northward, while Russia has encroached on the opposite side of Afghanistan, this country is often called the "buffer state" between these two rival powers.

As in other Asiatic countries so far studied, the government is very bad. The ruler, the merciless *Amir*, holds his authority by means of the terror which he inspires. His seat of government is at KABUL, nestled among lofty mountains.

Russia in Asia. — This vast section of the Russian Empire includes about one-eighth of the land surface of the globe. There are several divisions, such as Turkestan and the dependencies of Bokhara and Khiva ; but by far the largest is Siberia, which is a million square miles larger than Europe, and even larger than the United States, Mexico, and Central America combined. Yet it has less than one-twelfth as many inhabitants as the United States alone.

FIG. 267.
A wedding procession passing through a street in Teheran.

The climatic belts of Russia in Asia are merely a continuation of the belts in European Russia (p. 266). In the north of Siberia are the tundras, with a scattered people who resemble the Eskimos (Fig. 268) of North America and make a bare living by the help of the reindeer (Fig. 48). South of the tundras are the forests (p. 359), containing many valuable fur-bearing animals, such as the sable, ermine, and fox, and peopled mainly by

hunters and lumbermen. There are some farms in the clearings; and when the forests are removed this should become a great agricultural region. Still farther south are the broad Kirghiz steppes (p. 359), watered enough for farming in the north, but more and more arid toward the south in Turkestan and Bokhara.

FIG. 268.
A Yakout woman from the cold tundra region of Siberia.

While there are some tracts of salt-covered plains and sandy desert where men do not live, most of the steppe country is adapted to herding. Upon these steppes, grass and flowers appear in spring when the snow melts; but the drought soon comes, and the plants wither. Then, as in western United States, the country looks like a desert, though sheep, cattle, goats, horses, and camels find much nourishment in the dried grass, which is a kind of natural hay.

Siberia has attained a reputation in the past, mainly as a source of minerals, and as a place of exile for Russians whom the government wishes to dispose of for political or other reasons. Gold has been found in a number of places, as in the Urals and near Lake Baikal, the largest fresh-water lake on the continent. But while there is much mineral wealth in Siberia, there has been little mining, excepting in the western part near Russia.

A new era seems about to open for this vast empire, for the Russian government is now constructing extensive railways

which will open up the country for development. One system extends eastward from the Caspian Sea to Turkestan (Fig. 241), while another and longer one reaches from Russia in Europe to the Pacific Ocean. Trace it on Figure 241. Hitherto transportation across the vast plains, arid steppes, and rugged eastern mountains has been difficult in the extreme. While the large rivers are very useful in summer, their importance for commerce is greatly lessened because some of them lead into salt lakes without outlet, while others enter the frozen Arctic and are themselves frozen over during a large part of the year.

FIG. 269.
A village in Siberia.

Heretofore the products of Siberia could not easily be exported; nor could machinery and other manufactured articles be brought in without the greatest difficulty. But by the building of railways we may expect a rapid development of Siberia, whose resources are far greater than the sparseness of the population would indicate. Indeed, since the longer railway was begun there has been a rapid increase in population and exports, especially of corn.

There are some important cities in Russia in Asia. The largest in the southwest is TASHKEND, which is about the size of Indianapolis. TIFLIS, between the Black and Caspian seas, is really in Asia, though the Russian gov-

ernment classes this region with its European provinces. It is about the size of Tashkend. There are a number of other cities with a population of from fifty to a hundred thousand. In Siberia there are no large cities, though several along the railway, including IRKUTSK and VLADIVOSTOK, are now growing rapidly.

FIG. 270.

The valley of Cashmere among the mountains of northern India.

India. — This densely populated peninsula, with its warm climate, offers a striking contrast to cold, sparsely populated (Fig. 253), and slightly developed Siberia.

Physiography and Climate. — Lying largely in the torrid zone, the Indian peninsula has a hot climate. Its position in the trade-wind belt might lead us to expect much desert, especially on the lee or western side. But this coast really has a heavy rainfall because it is

reached by the summer monsoons (Fig. 33). In the winter, however, when the winds blow from the land, the climate is so dry that plants wither ; and in Baluchistan, which is not affected by the summer monsoons, there is true desert. Southern India and Ceylon, on the other hand, have a heavy rainfall at all seasons. Why?

India, which is in the form of a triangle, has a remarkably regular coast and therefore few good harbors. Most of the peninsula is a plateau, rarely more than two thousand feet high and largely covered with lava flows like those of the Snake River Valley of western United States.

Fig. 271.
Natives of the Cashmere valley (Fig. 270).

North of the plateau is a broad lowland occupied by the Brahmaputra, Ganges, and Indus rivers, which, like the Po of Italy, have built the plains out of sediment brought from the mountains. Among the lofty mountains which lie to the north of the river plains, the highest are the Himalayas, in which there are scores of peaks each reaching an altitude of over four miles. Even the mountain passes are from seventeen to nineteen thousand feet above sea level, or much higher than Mt. Blanc in the Alps.

Farming. — This mountain system has formed a north-

ward barrier to British conquest, as in former days it served as a barrier to invasion from nomadic hordes which overran Asia Minor. With such protection the fertile plains and deltas of the three great rivers became the seat of early civilization. From the very earliest times the people have been engaged in farming, and at present fully three-fifths of the population follow that occupation.

As there are 287,000,000 inhabitants in an area of about 1,559,000 square miles, it will be seen that there is an average of 184 persons for every square mile; and in parts of the country there are 500 per square mile. The density of population may be better understood by remembering that there are only twenty persons per square mile in the United States. There are, in fact, almost as many people in India as in North America, South America, and Africa together.

FIG. 272.
A tea plant.

Millet, which grows on the dryer lands, and rice, which is raised on the river lowlands where the land can be flooded, are the staple foods of the natives. After the dense population is fed, however, little is left for export. Wheat, on the other hand, is raised for export, and India is a vast granary for Great Britain. Much cotton is also produced. Some of this is manufactured into coarse

fabrics for use at home and for export to China and Africa ; but much is exported as raw cotton, for use in the cotton mills of Great Britain. Other agricultural products are tea, sugar cane, tobacco, opium obtained from a species of poppy, indigo of value as a dye, and jute grown upon the sandy river bars for the sake of its coarse, strong fibre.

Fig. 273.

A native village near Calcutta — notice the bamboo on the right.

For the production of rice, and for other crops as well, irrigation is necessary in many places. Therefore this country, favored by large rivers fed by the rains, snows, and melting glaciers of the mountains, has some of the most extensive irrigation works in the world.

Forests and Wild Animals. — There are valuable forests on the mountain slopes, where the trees, including pines, firs, and junipers, resemble those of Europe; and there are also magnolias and the beautiful deodar, a species of cedar. In the hotter portions are valuable medicinal plants and spices, such as pepper and cinnamon. The teak, whose strong, durable

wood is of great value in building, and the mango, whose fruit is important as a food between harvests, are both common in many localities. Besides these, the bamboo and various palms are of great value. The bamboo is employed in hundreds of ways in making implements and building houses (Fig. 273); and the palms supply juices for drink, fibre for ropes and mats, and cocoanuts (Fig. 251) for food and oil.

In parts of the Ganges Valley and elsewhere there are *jungles*, or tracts of waste land densely covered with bamboos, canes, etc., and very difficult to penetrate. From these wastes the lion has almost disappeared; but the elephant is still found, and there are various species of the monkey; also the rhinoceros, buffalo, leopard, wild boar, wolf, and Bengal tiger (Fig. 248). The tiger is much dreaded, for it not only preys upon cattle, but even attacks men. Among the Himalayas, goats, sheep, asses, and dogs still exist in a wild state. Crocodiles live in the rivers; and venomous serpents are said to kill as many as twenty thousand persons each year.

Fig. 274.
A bullock cart in Bombay.

Domestic Animals. — Owing to their religion the *Hindus*, as the people of India are called, live mainly upon vegetable food. But many animals, such as the yak, elephant, camel, and buffalo, are raised for a variety of purposes (p. 362). Large numbers of sheep are kept for their wool, and humped cattle for their milk —

an important article of food — and also as draught-animals. Since fish are eaten, fishing is an important industry.

Mining and Manufacturing. —In addition to the raw products of farms and forests there are valuable minerals, including salt, petroleum, coal, and iron. India has long been noted for hand-made goods of great beauty; but with the exception of these there is little manufacturing. Of late, however, there has been a marked development of cotton manufacturing by machinery.

It is even more unnatural that cotton should be shipped all the way to England for manufacture than that the cotton of our Southern States should be sent to England and New England. Therefore, as the South is learning to make cotton goods near the cotton fields, so we may expect that the people of India will in time develop an extensive cotton-manufacturing industry in their own country.

Famines and Plagues. — Although these people are so extensively engaged in agriculture, there are times when they do not raise enough food for their own use, and then terrible famines result. These occur when rain fails; and it may be that one section suffers while another has an abundance. With the building of railways the danger of famines decreases, for then different sections are brought more closely together. The first railway was begun in 1854, and there is now a network across the peninsula (Fig. 241).

But even the railways do not entirely remove the danger; and probably famines will not cease so long as such vast numbers depend entirely upon the products of the soil. There is need that some of them adopt other forms of industry, as for example manufacturing, and thus secure the means of buying food from other less densely settled regions. An even greater need is the construction of still more extensive irrigation systems, for there is rainfall enough in some seasons if the water could be stored in reservoirs for use when wanted.

India has also been visited by plagues which have destroyed tens of thousands of lives. With a population so dense, in a climate so hot, disease spreads with rapidity and with terrible effect, particularly among people who are not properly nourished and whose surroundings are not always the cleanest.

People. — India was originally inhabited by a swarthy race, which was gradually replaced by white people, or Aryans, from the north, who now make up the bulk of the population. Although protected by the sea and by the mountains of the north, a break in the mountain barrier in the northwest has permitted attack from that direction. But the various invasions from that quarter have never completely devastated the country, as was done in Asia Minor. One of these invasions was by the Mongols, who introduced Mohammedanism into northern India. The capital of their empire was DELHI, and it is said that the present Delhi is built upon the ruins of ten older cities.

FIG. 275
A tomb and mosque in India.

Religion. — India is the home of *Brahmanism*, which is professed by three-fourths of the people, while about one-fifth are Mohammedans. There are only about seven million Buddhists and two million Christians. Brahmanism, as already stated (p. 93), teaches the belief in caste, which is quite different from our belief in the equality of man with man, and is a great drawback to the development of the people. How? Although grouped under the general term of Brahmanism, these people

have a great variety of religious beliefs and customs, as might be expected in a country made up of many tribes speaking different languages; but throughout India there are numerous general customs based upon the rule of the priests or *Brahmans*.

The people have many religious superstitions. For example the Ganges, doubtless because of its great value for irrigating and fertilizing the soil, is considered a sacred river (Fig. 279); and bathing in its waters is supposed to wash away disease, though, since the waters are also used for drinking, this custom is no doubt responsible for the spread of much disease. The conscientious Hindu makes at least one pilgrimage to the holy river as a means of gaining divine favor and forgiveness.

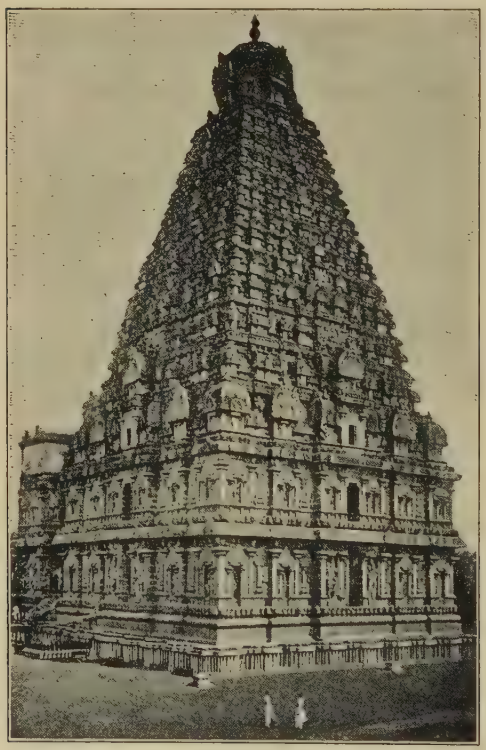


FIG. 276.
The Great Pagoda in India — a sacred temple.

Government.— Over three hundred years ago a company of London merchants obtained a foothold in India for trading purposes. The peninsula was then divided among many native rulers, and at various

times the British government was called upon to settle disputes between them. Partly in this way, and partly through the necessity of intervening for the protection of British subjects engaged in the Indian trade, Great Britain gradually gained control of the peninsula. India was formally transferred to Great Britain in 1858, and in 1877 the Indian Empire was established as a part of the

FIG. 277.
Elephants at work in a lumber yard in Burma.

British Empire. The king of the British Isles is also styled Emperor of India.

By their protection and wise direction, the British are able to maintain their hold upon this vast country, whose population is more than seven times that of the British Isles. Throughout India there is an average of but one Britisher to every three thousand natives, and by far the greater number of government officers are Hindus. One of the members of the

British ministry is Secretary of State for India; and, as in the case of Canada, a governor-general, called the *Viceroy*, is sent from Great Britain as chief executive officer. The British have not attempted to overturn the numerous native states; nor have they interfered seriously with the firmly established customs of the people. They have endeavored to guide and direct the people rather than to control them absolutely.

Baluchistan and Burma. — The Indian Empire is not confined to the Indian peninsula. It includes also the desert country of Baluchistan to the west and fertile Burma to the east. In the latter country there are great numbers of Mongolians, or people of the yellow race. Vast quantities of rice are raised, and there are other valuable products, as rubies, sapphires, and tropical woods. In Burma the elephant is used for moving logs (Fig. 277), drawing ploughs, and carrying passengers. RANGOON, the seaport, is noted for its export of rice; but MANDALAY, farther up the Irawadi River, is the largest city in Burma.

Base of Himalayas. — Between Burma and the peninsula of India, at the base of the Himalaya Mountains, is the region which has the heaviest rainfall in the world. Much tea is raised on the hills of that section (Figs. 272 and 278); for tea requires a hot climate, an abundance of rain, and sufficient slope to prevent the water from standing about the roots of the plant.

The tea plant, which is three or four feet high, has bright green leaves resembling those of a rose bush. The leaves are picked several times a year, often by boys and girls. After they are picked they are dried in the sun and later in buildings, in order to remove all moisture before packing.

Other Countries. — Just north of this tea district, among the Himalayas, are *Nepal* and *Bhutan*, which, though small, retain their independence because so protected by the mountains.

At one time Portugal and France had important colonies in India; but they now control only very small sections, too small to be shown on our map.

Principal Cities. — So many Hindus are engaged in farming that only about five per cent of them dwell in

FIG. 278.
Picking tea in India.

large towns. Nevertheless, there are seventy-five cities with a population of over fifty thousand, while two, Calcutta and Bombay, have over eight hundred thousand.

CALCUTTA, the largest city, is a seaport on the Ganges delta and the natural outlet of the fertile Ganges Valley; but it has a poor harbor on a river whose volume is variable. It has some manufacturing, — being near coal

fields, — but it is chiefly important as a commercial centre and as the residence of the Viceroy.

Farther up the Ganges are the smaller cities, LUCKNOW and BENARES. The latter, the "holy city of the Hindus," is on that part of the Ganges which is deemed most holy. At this point temples (Fig. 279) line the banks of the river for miles, and a steady stream of pilgrims pours in and out of the city.

FIG. 279.
Temples along the Ganges at Benares.

While there are several cities on the Ganges, there are none on the Indus large enough to find a place on our map. This is not because the Indus is useless for irrigation, but because of shallow waters and sand bars which interfere with navigation. These are due to the fact that the river, though well supplied with water from the mountains, loses much of it by evaporation in crossing the arid plains. Thus it is obliged to deposit some of its sediment as sand bars in its channel.

Bombay, next in size to Calcutta and the nearest port to England, is a great business centre. It is, moreover, the only Indian city with a really good harbor. Madras, the third largest city, is situated at a point where there is only an open roadstead protected by a breakwater.

Fig. 280.
A group of kings in Ceylon.

Ceylon. — With a fertile soil, abundant rainfall, and high though equable temperature, Ceylon is a beautiful tropical garden, and was considered by the Arabs to be the Garden of Eden. A chain of islands and coral reefs which nearly connect Ceylon with the mainland is therefore called "Adam's Bridge." Over this it is proposed to extend a railway from the mainland. Among the products of Ceylon are cocoanuts, rice, fruit, coffee, and tea. The island is the third most important tea-producing section in the world. Other products are sapphires and rubies from the stream gravels, and beautiful pearls and mother of pearl obtained from shellfish which live among the coral reefs.

Indo-China and the Malay Peninsula. — This peninsula consists of a series of mountain chains, spreading fan-

shaped southward, with numerous long, narrow valleys between, which broaden toward the south and terminate in fertile, populous delta plains at the river mouths. In addition to Burma, a part of the Indian Empire, there are three divisions of this peninsula: (1) *Siam*, (2) *French Indo-China*, and (3) the *British Straits Settlements*.

Siam. — In this tropical country most of the inhabitants, who are either Chinese or Malays, live along the rivers and irrigation canals, where they are largely engaged in the production of rice. Millet, which is raised in the drier places, competes with rice in importance as a food. Among the mineral products are rubies, sapphires, gold, and tin. The forests yield tropical woods, especially teak wood, for use at home and for export.

FIG. 281.
A Buddhist temple at Bangkok.

Siam is a monarchy, the king being assisted by a council of ministers and a legislative body of noblemen. The poorer classes are still kept in a kind of serfdom by the local governors; that is, they may be compelled to labor for the governors for two or three months each year.

BANGKOK, the capital and largest city, is situated on the banks of a muddy river up which vessels of small draught are able to pass to the city. Most of the inhabitants live either in poor houses on narrow, ill-kept streets, or else in boats and

floating houses on the river; but the king has magnificent palaces decorated with carved marble and frescoed with gold. Buddhism is the religion of the country; and in Bangkok alone there are said to be ten thousand Buddhist priests whose temples (Fig. 281), decorated with gold, silver, and jewels, are wonderfully gorgeous. Next to the king the white elephant is held in highest reverence, and Siam is often called "the Land of the White Elephant."

French Indo-China. — This dependency of France resembles Siam in climate and people. Its forest-covered hills yield valuable teak and iron wood, and in its valleys are extensive fields of rice and millet. Rice culture is here favored by the warm, damp climate and by the broad, easily flooded deltas and flood plains of the Mekong and other rivers. Silk, cotton, tea, and spices are other products, and there are also extensive coal beds. Some coal is exported.

FIG. 282.

A Malay house in the Straits Settlements.

Straits Settlements. — This is the name given to the British possessions on the southern end of the Malay peninsula. In that hot, damp country, so near the equator, such tropical products as rice, cocoanuts, gutta-percha, and spices are obtained. Extensive deposits of tin are found in this region, which supplies about half the tin used in the world. The mining is done crudely by Chinese, while the native Malays are mainly engaged in farming and fishing.

The only city of importance is SINGAPORE, situated almost on

the equator, on a small island barely separated from the southern tip of the Malay peninsula. Being a *free port*, or a port freely open to the commerce of all nations, and being situated on a narrow strait through which many ships of various nations are passing, Singapore is an extremely busy city.

Chinese Empire. *Area and Population.* — This empire, which is nearly as large as Siberia, has more inhabitants than any other nation in the world. It includes nearly half the population of Asia; that is, about the same number as are found in North America, South America, Africa, Australia, the British Isles, and Germany together. Or, otherwise expressed, it has fully twenty-five million more people than live in all of Europe.

Fig. 283.

A scene in the arid mountainous part of China, where camels are used.

The hordes of Chinese who live on the river flood plains and deltas of the south and east make this the most densely settled large area on the globe.

Nevertheless, there are outlying provinces of great extent, such as Mongolia, Turkestan, and Tibet, where the population is very sparse (Fig. 253). This is because of the rugged mountains (Fig. 245) and the vast desert plateaus where the dryness is unfavorable to all industries save herding. There are large sections, as in the great Desert of Gobi, where even this industry is impossible. Strangers find it difficult to enter

some of these remote districts; and the holy city of Lassa in Tibet has been visited, it is said, by only three Europeans. The inhabitants wish to save their city and its sacred temples from intrusion, and they capture and often torture those whose curiosity leads them there. Over these wild regions the Chinese government is able to exert only a very slight authority.

Climate. — Most of the densely settled part of China has a temperate climate with an abundance of rain during the summer monsoon. In the north, for example near Peking, which is in about the same latitude as Philadelphia, the summers are warm and the winters cold; but farther south, as at Canton, just south of the Tropic of Cancer, the climate is tropical, and there is rain throughout the year. Toward the interior the climate grows steadily drier, and, with increasing elevation, colder also.

In the China Sea, as in other parts of southern Asia, fierce typhoons are encountered in the late summer and early autumn. They resemble the hurricanes which develop in the West Indies and often cause great damage along their path, which frequently skirts our southern coast, and then extends northeastward into the Atlantic. The typhoons of Asia, developing in the East Indies, also cause much destruction of life and property, especially on the low delta plains, over which great sea waves are driven by the typhoon winds.

The rains and snows of the Chinese mountains supply water for a number of large rivers. The two most important are the Hoang-ho and the Yangtse-kiang (Fig. 244), whose floods spread out over the broad deltas and flood plains, thus depositing sediment and adding fertility to the soil. The greatest rise, which in the Yangtse-kiang reaches a height of fully forty feet, occurs during the summer rains, between July and October.

It is with great difficulty that the Hoang-ho is controlled, and in the last twenty-five hundred years its lower course has changed eleven different times. In some cases this has caused a change of three hundred miles in the position of the river mouth. A single flood destroyed a million people. Because of the repeated destruction of life and property, the Hoang-ho has been called "China's Sorrow."

FIG. 284.
A Chinese mandarin in his official dress.

People and Civilization. —The Chinese Empire is inhabited by people of varied origin, with different customs, religions, and languages. The Mongolians, who form the basis of the population, apparently came from western Asia, bringing with them the knowledge of irrigation. Although China is partially protected on the west by mountain ranges and desert, the constant danger of invasion by nomads led, as early as 212 B.C., to the construction of the Great Wall (Fig. 241) along the northern frontier.

This wall, twelve hundred miles long in a straight line, and fifteen hundred miles with all of its windings, passes up and down hill (Fig. 285) and even over a mountain peak. It is twenty-five feet wide and thirty feet high, and at short distances apart are strong watch-towers rising still higher. This wonderful structure, which required armies of men to build, was so well made that it is still perfect in many places.

Long before Europeans had emerged from the state of barbarism, the Chinese had developed a remarkable civilization. The art of printing, the manufacture of gunpowder, the production of silk and silk goods, the baking

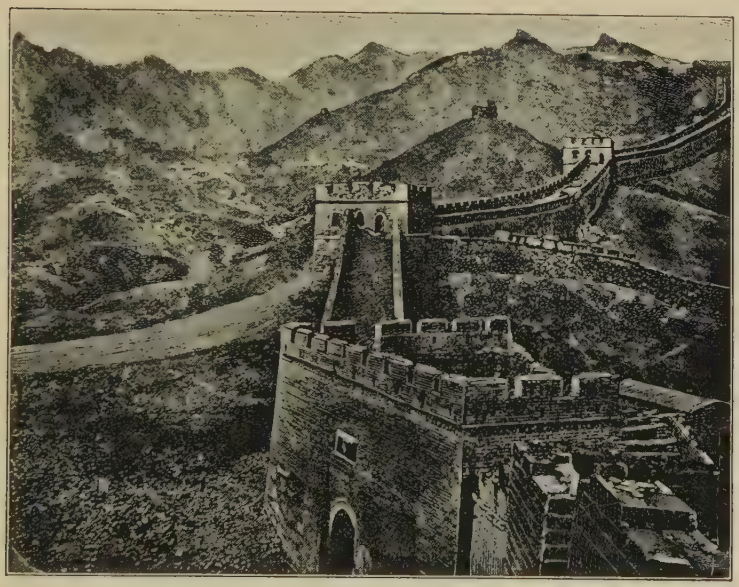


FIG. 285.
A part of the Great Wall of China.

of porcelain or china ware, and other important arts were known to them long before Europeans learned them.

But in spite of their early start, the Chinese have been outstripped by Europeans (p. 364). Their peculiar customs in part account for their failure to advance farther. They are followers of Confucius, and his doctrine is everywhere taught. In fact, no one can be appointed a

government official who has not passed an examination in the Chinese classics, including the doctrine of Confucius.

One of their doctrines is ancestor worship, which leads them to regard new customs as bad. This tends to check development, and is one of the reasons why they object to adopting European and American civilization. The strength of their

Fig. 286.

A scene in a public court at Shanghai.

ancestor worship is indicated by the fact that disobedience to parents is regarded in China as one of the worst of sins, for which children may be whipped to death. By law the punishment for striking a parent is death.

The conservatism of the Chinese is shown by their objection to the introduction of labor-saving machinery, and it is also shown by their means of transportation. Much of the traffic is

carried on by means of canals (Fig. 287), of which the largest is the Grand Canal (Fig. 241), built more than twelve hundred years ago. The rivers are also used (Fig. 244), even where transportation on them seems almost impossible; yet, instead of steam, they make use of poles, oars, and sails. Good roads are rare, and one of the principal vehicles is the wheelbarrow, even for carrying travellers. There are, for example, two thousand passenger wheelbarrows in SHANGHAI. Pack animals and men are used for carrying loads, and the more prosperous persons are carried in chairs by their servants. It is evident that a man's time in China is not valued very highly.

FIG. 287.
A typical Chinese village and canal.

Doubtless one of the main reasons for the Chinese objection to foreigners and their methods is the fear that the introduction of steam and machinery will throw people out of employment. The strength of this fear is illustrated by the fact that when, finally, in 1876, the Chinese government agreed to allow the building of a railway, so much opposition was raised that it was bought up and destroyed. Since then, however, one or two short lines have been permitted. Unjust treatment on the part of European nations, which have seized and held Chinese territory, is another important cause for objection to foreigners. It was a combination of these causes that led to the uprising of 1900, in which an attempt was made to kill all foreigners in China.

Natural Resources.—Though many Chinese are engaged in fishing, both in the rivers and the ocean, they are in the main an agricultural people. Their farming methods are very crude; yet they are so careful and industrious, and labor is of so little value, that they till every bit of land possible. For example, water for irrigation, instead of being distributed only over moderate slopes, as in the United States, is often taken to the very tops of hills. It is first raised from the river by means of wheels, turned either by men or by buffaloes, and then pumped upward from one terrace to the next until the whole hillside has been watered.

FIG. 288.
A Chinese pagoda or temple.

The principal food of the Chinese is rice; but their main products for export are tea and silk. Tea is raised on the damp hill slopes of the south, where the conditions resemble those in India (p. 390). Fully forty thousand men and women are employed in carrying tea into FUCHAU alone. They receive but ten cents a day for their labor. In the warm south, great quantities of silk are obtained, as in France, from the cocoon of the silkworm caterpillar. Some of the caterpillars feed on forest trees, others are carefully fed on the mulberry leaf.

As in other countries of southern Asia, the bamboo is one of the most valuable products. The seeds are ground up for food, and in spring the tender roots and stalks are eaten. The roofs and walls of houses, as well as nearly all articles of furniture, are made of bamboo wood. It is, moreover, woven into mats, baskets, and hats, while paper is made from its pulp.

The Chinese are an artistic people, and they make some very beautiful china ware and silk fabrics; but they still do the work by hand, as has been the custom for thousands of years. There is almost no other kind of manufacturing, nor is there much development of the wonderful mineral resources. It is said that China contains the largest coal fields in the world, in which both bituminous and anthracite coal occur; and there are also deposits of gold, silver, lead, and iron ore.

Sometime, when China awakens from her long sleep, there will be a wonderful advance of this vast empire of varied resources and really able people. Many Chinamen are well educated, and as a race they are noted for their politeness, honesty, and thrift. These qualities are well recognized in the East Indies and southeastern Asia, where so many of the tradesmen are Chinese. They need merely to appreciate the advantages of modern civilization; and it would be a help to this end if the people of Europe and America had a better understanding of the excellent qualities of the Chinese.

Government. — The Chinese government is peculiar. The *Emperor*, who has a right to nominate his own successor, is known as the "Son of Heaven." He has under him a *Viceroy* for each province, who must collect money for the imperial government, but is partly independent of the Emperor. The present Emperor is not a Chinaman but belongs to the Manchu division of the yellow race, which invaded and conquered China in 1644. It was then that the Manchu custom of wearing a long queue, or "pigtail," was introduced into China.

Principal Cities. — There are many cities in China, all densely crowded. The poorer classes live huddled together, while the wealthier classes and officials dwell in comfort and luxury. The largest city is CANTON, which has more inhabitants than Chicago. It is situated on a densely populated delta and is a port of outlet for productive southern China, being especially noted for its silk. It is said that three hundred thousand people, or one-

FIG. 289.
The harbor of Hongkong.

eighth of the inhabitants, live in boats moored in the river.

HONGKONG (Fig. 289), an island which commands the approach to Canton, belongs to the British. To Hongkong many of the products of China are sent for export to Europe and America. It is therefore a very busy place. HANKAU and WUCHANG, on opposite sides of the Yangtse-kiang River, are important river ports for tea. As in the case of most Chinese cities, the number of inhabitants is uncertain. For example, by some estimates

Hankau has a population of a million and a half, by others, only eight hundred thousand.

The treaty port[1] of SHANGHAI is another large city; but TIENTSIN, the port nearest PEKING, and the northern terminus of the Grand Canal, is still larger, having a population of about a million. It was from this point that the allied forces started, in 1900, to relieve the foreigners who were besieged in Peking by the Chinese Boxers.

PEKING, the capital of China, is situated on a broad, sandy plain. It has been the capital of a kingdom for three thousand years and of the Chinese Empire for over eight centuries. This city, like others in China, is surrounded by a high wall with gates that are closed at night, as of old in Europe. It is a rectangular city, with one portion reserved for the gardens and palaces of the imperial government. This part is known as the "Forbidden City," because the Chinese government refused to permit foreigners to enter it.

Korea. — This mountainous peninsula has a temperate climate and is adapted to the production of such crops as grains in the north, and rice, tobacco, and cotton in the south. In many respects the inhabitants resemble the Chinese; in fact, Korea was a dependency of China until freed by the war between China and Japan in 1894. While there are great natural resources, including both coal and iron, there has been little advance. The government is an absolute monarchy; the people have few rights; and, until 1882, the country was closed to foreigners. But now foreign influence is beginning to be felt in this "Hermit Kingdom," whose capital is SEOUL.

Japan. — This island empire extends from Formosa,

[1] Foreigners are not allowed to trade in all Chinese cities, and those ports where this privilege is allowed by treaty are called "Treaty Ports."

captured from the Chinese in 1894, to the Kurile Islands far to the north. How many degrees is that? About how many miles? The location of the islands with reference to the mainland reminds us of the British Isles; and, in fact, Japan's isolation from other countries has secured to her the same freedom from invasion as has long proved of such advantage to the British.

FIG. 290.
The gate at the entrance to Seoul in Korea.

Physiography and Climate. — Notwithstanding the great length of the empire, its narrow islands occupy an area but little greater than that of California. So much of this is mountainous that not more than one-sixth of the surface can be cultivated, and many of the lowlands are difficult to reach because of the rugged surface and the absence of navigable rivers. There are numerous volcanoes (Fig. 242); and, since the mountains are still growing (p. 355), many earthquakes. These are so frequent and violent that in building their houses the people must allow for their force.

Nipon, the main island of Japan, has a warm temperate climate — due to the Japan current (Fig. 38) — and an abundance of rain. Other islands near by have a similar climate; but *Formosa* is partly within the tropics.

Under these conditions, in several respects so unfavorable, a dense population has developed, equal to more than half the number in the United States. In many ways the Japanese are the most advanced people in Asia.

FIG. 291.
A Japanese peasant family travelling.

People and Government. — In early times Japan was invaded by Mongolians from the mainland, who expelled the original inhabitants to the more barren northern islands. From these Mongolians are descended the present Japanese, a people noted for their smallness of stature and their wonderful artistic instinct.

Centuries before the time of Christ they had developed a civilization resembling that of their kinsmen, the Chinese. Their fine taste led to the manufacture of many beautiful articles of silk, metal, glass, and wood. Like the Chinese, they for a long time did not care for modern civilization, and closed their ports to the outside world. In 1853, however, United States war-ships under Commodore Perry entered Yokohama and induced the Japanese to open their ports to our commerce. After this important step the country, in 1868, was freely opened to the world.

One great drawback to the advance of Japan was the nature of the government, which resembled that of Europe in the Middle Ages. While the *Mikado* was nominally emperor, the real power was in the hands of noblemen

who, by the feudal system, had large numbers of peasants, not only to work for them, but to fight when necessary.

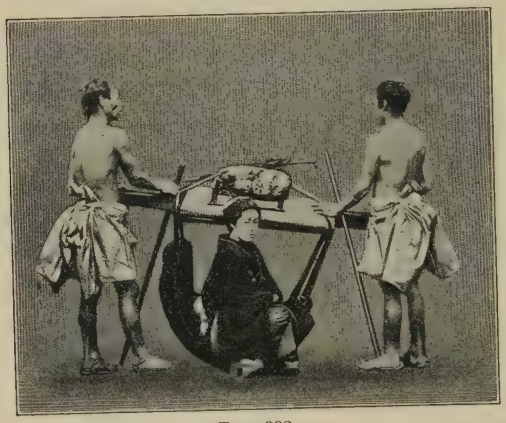


Fig. 292.
A Japanese travelling-chair.

After the country was opened to foreigners the power of the noblemen was lessened, and the Mikado became the real emperor. At present he is aided by two legislative bodies, one consisting mainly of noblemen, the other elected by qualified voters. There is also a Cabinet appointed by the Mikado, as the Cabinet of the United States is appointed by the President.

Recent Advance. — Since these changes the Japanese have become noted for their willingness to learn the lessons of Western civilization, and their progress has been truly marvellous. New schools have been started, and education has been made compulsory. Americans and Europeans have been induced to go to Japan to teach, and Japanese students have been sent to Europe and America to study in the universities and to learn what they could of Western civilization. Thus, in a generation the Japanese have added to their own knowledge that of Europe and America ; and they have learned their lessons so well that, with their patience, skill, and intelligence,

they alone of all the nations in Asia have taken rank with the great nations of the world.

The progress that has been made is suggested by the following facts: over seven hundred newspapers and periodicals are now published in Japan. While in 1872 there was only one short railway from Yokohama to Tokio, a distance of eighteen miles, there are now more than three thousand miles of rail-

FIG. 293.
A temple in Japan.

way in the empire. There are many large manufactories of various kinds; and, as in the British Isles, cotton and other raw products are even imported for manufacture.

Everywhere there are signs of progress; but many ancient customs are still preserved (Figs. 291 and 292), so that Japan is a peculiar mixture of ancient and modern. There are the Buddhist temples, and idols still worshipped (Figs. 254, 293, and 294); and the sedan chair is extensively used for travelling. Man power (Fig. 295) is much used still for carrying

passengers and merchandise, for there are but few domestic animals in Japan. It seems strange to us to see such customs within sound of the whistle of a woollen factory or railway engine; but to the Japanese the factories and railways are what seem strange, and they deserve the greatest credit for their wisdom in realizing the value of these modern inventions. What Japan has done China may also do if she will.

Fig. 294.
A Japanese Pagoda.

Resources. — Among the mountains there are valuable deposits of gold, silver, copper, iron, and coal; and these are now well developed. The mountain sides are covered with forests of great value, including giant cedars, camphor laurels, and lacquer trees; and wherever the soil is favorable there is agriculture. Among the products of the farm are wheat, sugar cane, and rice, the latter being the chief article of food, as among other Mongolians. As in China, both tea and silk are produced, and these form two of the main articles of export. Much of our tea comes from Japan. Besides these industries, fully two and a half millions of people are engaged in fishing.

Principal Cities. — Tokio, a city about the size of

Philadelphia, is the capital of Japan. Besides being the home of the Mikado, and therefore having many government buildings, it has numerous manufactories. YOKOHAMA, at the entrance to Tokio Bay, was a mere fishing village when visited by Perry; but since the harbor of Tokio is unsuited for the large modern ships, Yokohama has

FIG. 295.
A jinrikisha, or "man-power-carriage."

FIG. 296.
A view of Yokohama and its harbor.

grown rapidly and now has the largest foreign trade in Japan.

Other important cities, having a population of several hundred thousand, are Osaka, noted for its cotton manufacturing; Kioto, the former capital, and the centre of the tea district; and Nagoya, a centre for porcelain manufacturing, for which Japan has long been noted. All these cities are connected by railway lines, which have been a great aid in the development of their industries. State how.

Review Questions. — (1) Tell about the size of Asia; also its position with reference to the zones and other continents. (2) Tell about its physiography, including mountains, rivers, and mineral wealth. (3) Describe the climate. (4) Tell about the plants and animals, showing the contrast between northern and southern Asia. (5) What about the use of plants and animals in Asia in ancient times? (6) In what sections were the beginnings of civilization probably made? Why there? (7) Give reasons why Europeans have so outdistanced the Asiatics. (8) Tell about the population of Asia and its distribution. (9) Tell about the religions of Asia. (10) Why is Turkey in Asia of special interest to us? (11) Describe its surface, climate, and industries. (12) Why, and from what peoples, has Asia Minor suffered frequent invasions? (13) Tell about the Holy Land: its surface; climate; history; present condition. (14) Tell about Mesopotamia. (15) Describe the surface and climate of Arabia. (16) Tell about its government, products, and principal cities. (17) Give the main facts about Persia. (18) Do the same for Afghanistan. (19) Compare the area of Siberia with that of various countries of the world. (20) Compare the climatic belts of Russia in Asia with those of Russia in Europe. (21) What about the future of Siberia? (22) Tell about India: its climate and surface; population; agricultural products; forests and jungles; wild and domesticated animals; minerals; manufactures; famines and plagues; people and their religion. (23) How did the British gain control over India, and how is the control exercised? (24) Tell about Baluchistan and Burma. (25) For what are the countries at the base of the Himalayas important? (26) Locate and tell about the principal cities of India. (27) What can you tell about Ceylon? (28) Give the principal facts about Siam. (29) Do the same for French Indo-China; for Straits

Settlements. (30) Tell about China: area; number of inhabitants and their distribution; climate and rivers; people and their early civilization; reasons for their recent lack of development, giving examples; agricultural products; minerals and manufactures; government; principal cities. (31) What can you tell about Korea? (32) Tell about Japan: position; area; physiography and climate; population; people and government; recent advance; resources; chief cities.

Review and Comparison with North America.[1] — (1) How do North America and Asia differ in form, coast line, islands, mountains, direction of rivers, and deserts? (2) What other differences between the two continents can you mention? What resemblances? (3) Is the Canadian Pacific railway north or south of the Siberian railway? Which is the longer? (4) Is San Francisco north or south of Peking? (5) Name the three peninsulas of southern Asia; of southern Europe. Which of the six is nearest the latitude of Florida? (6) Name the large rivers of Asia and of Canada that flow into the Arctic Ocean. On a globe estimate the distance between the mouths of the Mackenzie and Lena rivers. (7) How do the great rivers of China compare in length with the Mississippi? With the Volga? (8) How do the interior lakes and seas of Asia compare in value for commerce with our Great Lakes? (9) With what lake in North America may the Aral Sea be compared? (10) What ocean currents affect the climate of Asia? Of North America? (11) Compare the climatic belts of Siberia with those of Canada. (12) Is western Asia more or less suited to agriculture and commerce than western North America? Why? (13) In what portions of North America and Asia is rice cultivated? (14) Answer the same question for cotton. (15) What important crops in Asia are not extensively produced in the United States? (16) Name some of the leading imports from Asia to the United States. (17) What about mining in Asia compared with that in the United States? (18) Make the same comparison for manufacturing; for railways. (19) What is the prevailing kind of government in each of the two continents? (20) Compare the population of the five largest cities of Asia with the five largest in North America. (21) What are the advantages to the United States of its control of the Philippines? The disadvantages?

[1] Aid in answering some of these questions may be obtained in Section XXV. and Appendix II.

Suggestions. — (1) What do you know about recent massacres of Armenian Christians by the Turks? (2) Why, do you suppose, has Turkey not laid claim to all of Arabia? (3) Estimate the area of the Holy Land. (4) Make a sand or clay map of the Holy Land (Fig. 258). (5) Point out on the map (Fig. 258) some of the places often mentioned in the New Testament and describe some of the events that occurred there. (6) What Bible events have their scene in Mesopotamia? (7) Write a paper to show to what extent our present civilization is indebted to the Holy Land. (8) Find out some facts about the Crusades. (9) Find out the length of the railway across Siberia. (10) About how far is it by rail from Lisbon in Portugal to Port Arthur on the Pacific? (11) Read Kipling's Jungle Books. (12) Why should the Great Wall of China have less value now than formerly? (13) How is Peking poorly situated for the capital of so vast an empire? (14) Find out about our laws for the exclusion of the Chinese, and the reasons why they were passed. (15) Describe some of the events connected with the siege of the legations and the relief expeditions sent to Peking in 1900. (16) Find some facts about the destruction of Galveston by the hurricane in 1900. Look for an account of the destruction caused by a typhoon in southeastern Asia — they are often found in the illustrated papers and newspapers in October–December. (17) What Asiatic countries have you seen represented among the immigrants to the United States? (18) Examine pictures of buildings in Asia (in this book or elsewhere), to note how different are their styles of architecture from our own. (19) Write a paper telling in what respects you would expect to find an Asiatic city different from one of our own. (20) By what water routes could you go from New York to Tientsin? Would it be nearer to go by rail as far as either San Francisco or Seattle? (21) By what three all-water routes could you go from New York to Bombay? Which is the shortest? (22) Find some facts about Confucius, Mohammed, and Buddha. (23) Who was Omar Khayyám, and what did he write? (24) Find some facts about the conquest of parts of Asia by Alexander the Great. (25) Who first reached India by water? (26) Who was Marco Polo? (27) Find some facts about missionary work in Asiatic countries.

AFRICA.
Scale of Miles.
0 500 1000
Cities with over 200,000: Alexandria
Cities with 100,000 to 200,000:..... Tunis
Cities with 50,000 to 100,000: Cape Town
Some places with 25,000 to 50,000: Tripoli
Smaller Places:..... Mozambique
Capitals with less than 25,000: Khartum
Capitals: ⊙ Other places: •
Railroads { Finished; Proposed
Comparative Area
PENN.
45,215 Square Miles.
ATLANTIC OCEAN
Gulf of Guinea
EQUATOR
TROPIC OF CANCER
Strait of Gibraltar
SPAIN
Algiers
Oran
Tangier
MOROCCO
Morocco
ALGERIA
TUNIS
Tripoli
Ghadames
TRIPOLI
FEZZAN
TUAT
Ain Salah
Ideles
Murzuk
Gatrun
Atlas Mts.
MADEIRA IS. (Port.)
CANARY IS. (Sp.)
C. Juby
Rio de Oro
SPANISH TER.
Wadan
ADRAR
C. Blanco
Taudeni
HOGAR
TIBESTI
Arawan
FRENCH TERRITORY
ASBEN
Timbuktu
Agades
Niger R.
MASSINA
GANDO
Say
Wurno
Sokoto
Gando
Kano
BORNU
NIGER
SOKOTO
Yakoba
Lake Chad
Masseña
CAPE VERDE ISLANDS (Port.)
St. Louis
Senegal R.
C. Verde
SENEGAL
Kayes
GAMBIA
Bathurst
Bissao
PORTUGUESE GUINEA
FRENCH GUINEA
FRENCH SUDAN
UPPER SENEGAMBIA
TERRITORIES
Bida
Yola
Benue R.
Kong
Musardu
SIERRA LEONE
LIBERIA
Freetown
Monrovia
ASHANTI
GOLD COAST
Kumassi
IVORY COAST
DAHOMEY
LAGOS
Abeokuta
Akkra
Cape Coast Castle
Bight of Benin
Bight of Biafra
KAMERUN
Kamerun
FERNANDO PO (Span.)
PRINCES I. (Port.)
SPANISH TER.
Libreville
ST. THOMAS I. (Port.)
ANNOBON I. (Span.)
FRENCH CONGO
Francheville
Stanley Pool
Leopoldvi
Kabinda (Port.)
Banana
Boma
KONGO
LOWER GUINEA
Loanda
LOANDA
ASCENSION I. (To Gr. Br.)
ST. HELENA (To Gr. Br.)
Benguela
PORTUG
BENGUELA
WEST A
Mossamedes
MOSSAMEDES
Kunene R.
GERMAN
DAMARALAN
SOUTH-W
Walfisch Bay (Gr. Brit.)
Angra Pequeña
Port Nolloth
Cape Town
C. of Good Hop
Longitude 20° West from 10° Greenwich 0° 10°

FIG. 297.

Longitude East from Greenwich
40°
50°
60°
70°
80°
30°
20°
10°
0°
CYPRUS
Port Said
SUEZ CANAL
Jerusalem
ISTHMUS OF SUEZ
Suez
Cairo
EGYPT
Mt. Sinai
Assuit
Keneh
Thebes
1st Cataract
2nd Cataract
Assuan
Wady Halfa
NUBIA
4th Cataract
Suakin
Berber
5th Cataract
6th Cataract
Kassala
Omdurman
Khartum
KORDOFAN
El-Obeid
DARFUR
Blue Nile
Sennar
Fashoda
Nile
Gondar
L. Tsana
Massaua
ERITREA
Aden
Jibuti
Gulf of Aden
SOKOTRA (To Gr. Brit.)
C. Guardafui
Berbera
BRITISH SOMALILAND
ITALIAN SOMALILAND
Harar
Adis Abeba
ABYSSINIA
Webi R.
Lado
Obbia
Magadoxo
BRITISH EAST AFRICA
L. Rudolf
Albert Nyanza
Lado
Bardera
Mt. Kenia 18,620
Kismayu
EQUATOR
Victoria Nyanza
Mt. Kilimanjaro 19,760
Lamu
GERMAN EAST AFRICA
Mombasa
PEMBA I.
Zanzibar
British Protectorate
Dar-es-Salaam
Bagamoyo
SEYCHELLES IS. (To Gr. Brit.)
AMIRANTE IS. (To Gr. Brit.)
INDIAN OCEAN
Kilwa
COSMOLEDO IS. (To Gt.Brit.)
COMORO IS. (To Fr.)
C. Amber
Mozambique Channel
Diego Suarez
Rovuma R.
Lake Nyassa
PORTUGUESE EAST AFRICA
Blantyre
Mozambique
Mojanga
Salisbury
Quilimane
Tamatave
Tananarivo
Beira
Sofala
Mozambique
MADAGASCAR (To France)
RODRIGUEZ I. (To Gt.Brit.)
REUNION I. (To Fr.)
MAURITIUS I. (To Gr. Brit.)
TROPIC OF CAPRICORN
Inhambane
C. Corrientes
Delagoa Bay
Lourenço Marquez
C. St.Mary
Pietermaritzburg
Durban
King Williams Town
Grahams Town
Port Elizabeth
PERSIA
AFGHANISTAN
ASIA
Persian Gulf
BALUCHISTAN
INDIA
ARABIA
Red Sea
Bombay
Arabian Sea
LEGEND:
Pink is used on British Territory.
Purple is used on French Territory.
Green is used on German Territory.
THE M.-N. CO.

XXII. AFRICA

Map Questions (Fig. 297). — (1) Compare the size of Africa with that of the other continents. (2) Sketch the eastern hemisphere to show the position of Africa. (3) Sketch the outline of Africa, and locate the principal rivers and lakes. (4) What peculiarity do you notice about the location of the mountains? (5) What zones cross Africa? (6) What kind of climate (temperature and rainfall) would you expect to find (*a*) in the extreme north; (*b*) in the extreme south; (*c*) at the equator; (*d*) near the tropics? (7) Find the desert country north and south of the equator. Explain its cause. (8) How does it happen that the Nile has water enough to flow so far through the desert? (9) In what sections are the most railways? What reasons can you suggest? (10) Where are the large cities? Compare their number with those in other continents. Why should there be this difference?

Physiography. — Africa, the second continent in size, resembles South America in outline. Its form is roughly that of a triangle, broad at the north and tapering toward the south. The coast line is remarkably regular, in striking contrast with the coast of Europe, Asia, and North America, and resembling that of South America and Australia. What must be some of the consequences of such regularity? What gulfs, seas, and large islands are found on the map of Africa?

Africa differs from all other continents in its mountain systems. It is mainly a plateau, but near the coast the plateau edges are broken and the rocks upturned, so that there is an almost complete mountain rim. Trace this rim (Fig. 298); from what part of the coast is it absent? In northern Africa the Atlas ranges reach an elevation of fourteen thousand feet; but the loftiest mountains are in

the east central part. Among the latter is the volcanic cone of Kilimanjaro, the highest peak on the continent. Find this peak and trace the mountains from there northward. Notice the elevated land in Abyssinia.

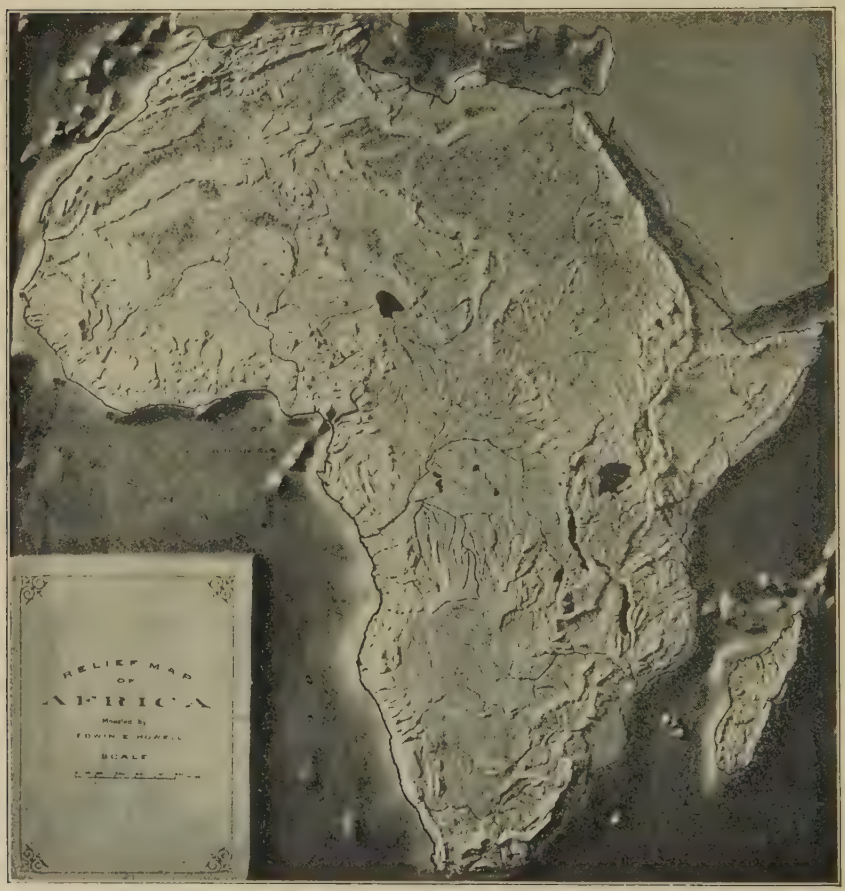


FIG. 298.

Owing to the mountain rim the rivers of Africa are peculiar. For instance, the Niger, after rising among the highlands near the west coast, sweeps around in a great curve before entering the Atlantic. The Zambezi, in the south, also rises near the west coast but crosses the continent eastward to the Indian Ocean. Trace the courses of the Nile and the Kongo, the two largest rivers.

In descending from the plateau each of these streams is interrupted by rapids and falls. Find the Victoria Falls of the Zambezi (Fig. 297); the cataracts of the Nile; also Leopoldville on the Kongo, below which are some falls. Rapids also occur in the Niger. How will these great rivers compare, therefore, with the Mississippi or Amazon as routes for commerce? How must these falls affect the development of Africa?

In one part of Africa there are several large lakes. Name the three largest. Into what rivers do they empty? Notice that they are among the mountains; their basins were not formed by glaciers, as were most lakes of North America, but by movements of the earth's crust.

Climate. — The equator crosses so near the middle of Africa that only the northern and southern ends are in the temperate zones. Therefore the climate of most of the continent, like that of South America, is tropical. Since the altitude of so much of Africa is so nearly uniform, the belts of climate extend nearly east and west. What is true in this respect in South America?

In equatorial Africa, that is for some distance both to the north and south of the equator, there is such a hot, rainy climate that, as in the Amazon Valley, the land is densely covered with a tropical forest (Fig. 299). This is especially well illustrated at the base of the plateau where the narrow strip of coast land is hot, reeking with moisture, and the seat of deadly malaria. These condi-

tions have greatly interfered with exploration, for disease is apt to seize white men even while they are crossing the coastal strip.

The interior, owing to its greater elevation, is somewhat cooler and less unhealthful; but even there tropical heat and rain prevail in the equatorial belt. It is this heavy rainfall that supplies the Kongo and Nile with their immense volumes of water. Both to the north and to the south of the rainy equatorial region is the savanna belt (Fig. 299), where the rainfall varies with the season. Why (p. 34)?

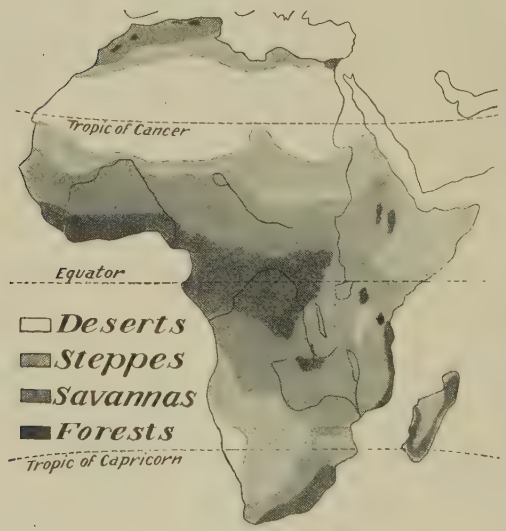


FIG. 299.

To show the influence of climate on vegetation. In the savanna area there are numerous forest-covered sections, especially near the rivers.

In the savannas (p. 55), where the climate is always hot, the rainy season lasts for several months; but the remainder of the year is so dry that trees do not thrive. Therefore, excepting along the streams, the country is open and grass-covered. This condition of drought is suggested on the map (Fig. 297) by the small number of streams. It is also indicated by Lake Chad; for, although a good sized stream enters this lake, it has no outlet. Notice

that the boundary of the lake is marked by a broken line, meaning that it cannot be fixed. During the dry season the lake is smaller than Lake Erie; but with the wet season it rises, overflows the surrounding country, and becomes several times as large. Where are the corresponding savannas in South America? (p. 103).

As the tropical forest grades into the savanna, so the savanna grades into the true desert (Fig. 299), where the influence of the drying trade winds is felt at *all* times of the year. The northern desert is larger and better developed than that south of the equator. This is due partly to the fact that the continent is so broad in the north, and partly to the large land areas which lie to the north and east — the directions from which the winds of northern Africa must come. On the mountain slopes near the Mediterranean there is moderate rainfall; and likewise on the southeastern slopes of South Africa where the winds blow from the sea.

The Sahara, which in places extends to the very shores of the Mediterranean, forms a part of the most extensive desert belt of the world. Trace this belt into Asia. It is characterized by cloudless skies and almost complete absence of rain; but here and there, on the mountain slopes, there is moderate rainfall. It is this which supplies the widely scattered springs and the short mountain streams. In the dry, clear desert air the nights are cool, even in summer, although the midday temperature may reach 100° or even 125° in the shade.

Plants and Animals. — Northern Africa is so close to southern Europe that there is a marked resemblance between the animals and plants on the two sides of the Mediterranean. The desert, however, serves as an effective barrier to their spread southward.

FIG. 300.

Some of the African animals.

Portions of the desert, especially where covered with dunes of moving sand, are almost void of plant life. Animals are also few in number and limited in kind, among them being the ostrich (Fig. 300) and the camel (Fig. 301). What have you previously learned about the plants and animals of the desert? (p. 58). The oases, on the other hand, support a number of plants. Of these the date palm is most notable, for it is an important source of food for the nomads of the desert.

FIG. 301.
The camel.

In the desert of South Africa there is a resemblance to the plants and animals of the Sahara; but many of the species are different. The dense tropical forest is as effective a barrier to the spread of desert life as the desert itself is to the spread of plants and animals that are adapted to humid climates. What would happen to seeds carried by winds or animals from one of these places to the other?

FIG. 302.
A crocodile on the bank of the Nile.

The open country between the desert and the tropical forest abounds in large animals (Fig. 300). Among these, on the savannas, and on the edge of the forest, are the antelope, giraffe, buffalo, zebra, elephant, lion, leopard, and rhinoceros, while the crocodile (Fig. 302) and the huge hippopotamus live in the rivers. The dense forest itself is shunned by many of the larger forms, though teeming with insect life, birds, reptiles, and tree-dwelling mammals. Among the latter are the baboon, the gorilla, and the chimpanzee (Fig. 300).

FIG. 303.
A Zulu warrior in fighting dress.

There is a close resemblance between the animals and plants of Africa and Asia (p. 361). Those of the Sahara are also found in the deserts of Asia; and the tropical life of the savannas and forests of Africa is similar to that of southern Asia. They are, in fact, so closely alike that the two regions are classed as one great life zone, the *Ethiopian*. But although in the same latitude with South America, the African animals and plants differ greatly from those of South America because of the broad ocean barrier.

The People. — Central and southern Africa is the home of the negroes, who are divided into many tribes with different customs. Some are fierce and warlike, others peace-

ful; those dwelling in the forest live by hunting; those upon the savannas, by primitive agriculture and by herding. For centuries they were captured by the whites and sold in slavery; but the day of the white slave-trade is now almost past. In spite of the former frequency of slave-hunting raids, and the great destruction of life in the fierce tribal wars, there are many negroes left. With a fertile soil, and in a warm climate, they are able to support themselves with a minimum of work, especially along the rivers and on the savannas.

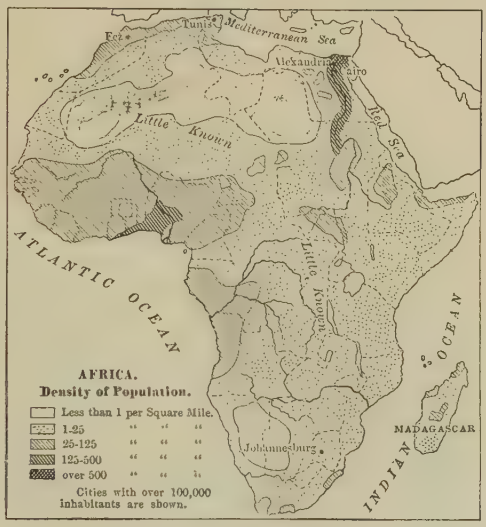


FIG. 304.

While the forest and much of the savanna have been dominated by the negro even down to the present day, the arid sections of northern Africa have been held by the whites since very early times. Near the border line between the two races there has been such a mixture of blood that the population is largely of half-breeds.

The whites of northern Africa are in part herders, living the nomadic life so characteristic of such lands. They are energetic and intelligent, though fierce and warlike. Upon

the oases are colonies of farmers, especially along the lower Nile, which is really an immense oasis in the midst of an almost trackless desert; but since the means of support are meagre, the desert itself must always be thinly inhabited.

Northern Africa figured prominently in the early history of Europe. To the ancient civilization of Egypt the early Europeans owed a part of their civilization. For those who dwelt upon the shores of the enclosed Mediterranean, after gaining knowledge of sailing, often came in contact with the Egyptians.

The Egyptian nation, once powerful and highly developed, was later conquered by the Romans, and finally fell into decay. Its prominence in olden times is indicated by the part it played in the Old Testament history. Give some examples.

Fig. 305.
Nubians of the Nile.

Although the Greeks and Romans were familiar with northern Africa near the Mediterranean, most of the remainder of the great continent was a vast unknown. Yet that such ignorance was not due entirely to distance is proved by the fact that the Mediterranean people were in communication with the more distant lands of southern Asia. It was the broad desert barrier, with its fierce nomadic inhabitants, that checked exploration by land; and the terrors of voyages on the open ocean in small boats prohibited exploration by water.

Exploration and Settlement. — The Indies, famed for their precious stones, spices, and other valuable products,

were reached by long journeys overland. But even before the famous voyage of Columbus, the Portuguese — the most progressive sailors of that day — were engaged in an attempt to reach these distant lands by sailing around the southern end of Africa. After various voyages, the Cape of Good Hope was finally passed and the way to the Indies by water was opened in 1498.

FIG. 306.

A pyramid in the desert near Cairo — one of the remarkable works of the ancient Egyptians.

The Portuguese made settlements on the east and west coasts of Africa, and they still have extensive possessions there (Fig. 297). But progress toward development and settlement has been slow for various reasons, among which perhaps the most important is the fact that so much of Africa is tropical. The desert is forbidding, and the hot, damp climate of the coastal strip, upon which colonies were naturally first established, was found particularly unhealthful (p. 417). In addition, travel into the interior was prevented by hostile hordes of blacks, and by the absence of navigable rivers. Moreover, those who were

willing to leave Europe were more attracted toward the continents of Australia and America. Why?

By far the most successful settlement in the newly discovered parts of Africa was that made by the Dutch at Cape Colony, a little later than their settlement of New York. As in the case of New York, the British seized their territory; but, by migrating northward, the Dutch people were able to maintain an independent hold upon a part of South Africa until, in 1900, their territory was once more seized by the British.

FIG. 307.
Bedouin nomads on the desert of Sahara.

During the nineteenth century Livingston, Stanley, and others entered the "dark continent"; and since their efforts, exploration has been rapid. Many European nations have taken part in the exploration, and as a result have claimed territory. But the British have been by far the most active. What other nations have possessions there? (Fig. 297).

The British have done most toward the development of Africa, partly because they control the most desirable portions, — the fertile valley of the Nile in the north, and the southern part with its favorable climate and wonderful mineral resources. They now propose to build a railway from Cape Town to Cairo, and a part of it is already completed (Fig. 297).

Northern Africa

Political Divisions. — Much of northern Africa is such a desert that its inhabitants are few and scattered. It is, however, under the control of various nations. The greater part of the Sahara is claimed by the French, though the Spanish hold a small section on the western coast, and the British control both the Libyan desert and the Egyptian Sudan in the east. Along the Mediterranean coast are several well-settled sections, the best known being Egypt. The four countries west of Egypt — Tripoli, Tunis, Algeria, and Morocco — are often called the *Barbary States* (the home of the Berbers).

Fig. 308.
Biskra, in Algeria, on the northern edge of the Sahara.

The Sahara. — From the Atlantic to the Red Sea, and from near the Mediterranean to the grass lands of the Sudan, there is almost unbroken desert — the famous Sahara. Its area is estimated to be from three to four million square miles, or about equal to that of the entire United States. It is a plateau of uneven surface, with mountain ranges here and there, and bordered on the north by the Atlas Mountains. The wind-swept highlands are bare and stony, while the lowlands have extensive areas of sand dunes.

Much of the soil is fertile, and with rainfall would yield abundant crops. But nature has forbidden rain, and its surface is therefore barren in the extreme. Only on the oases, of which there are some four hundred in the Sahara, is there the necessary drinking water which renders human life possible in the desert.

FIG. 309.

A negro hut in Zululand.

Caravans cross this desert, one of the important routes being from Tafilet in Morocco, southward to Timbukto. There may be from a thousand to fifteen hundred camels in one caravan, and a full year may be required to equip it. Each camel is carefully selected by the chief of the caravan, and many extra camels are taken along to replace those that give out on the journey. There is one driver for every dozen camels.

Upon starting, the loads are carefully packed on the camels' backs, each animal bearing about three hundred pounds. A

day's march lasts sixteen hours, the camels travelling some thirty abreast at the rate of about two miles an hour. Ordinary camels cannot travel more than three days without drinking; but the better grades are able to go for six or seven days without water and with almost no food. The trip across the Sahara, from north to south, requires fully three months. Estimate the distance. At best nearly a third of the animals perish in the round trip; and before the return journey is undertaken it is necessary for those surviving to have a rest of several weeks.

FIG. 310.

A nomad camp on the northern edge of the Sahara.

An advance party precedes the caravan to make arrangements for camping and for water. Many roundabout journeys are necessary to pass deep valleys and plateaus, for caravans go around rather than over obstacles. The daytime is hot; but as soon as the sun sets, the temperature rapidly falls and the nights become cold even in midsummer.

There are dangers in the journey aside from that of thirst. Sometimes sand storms arise; and although such a storm may not last a half-hour, it may destroy a whole caravan. The wind blows violently, and sand fills the air and drifts about in such quantities that animals and men alike are suffocated in the drifts. Also small caravans may be attacked by wander-

ing tribes of warlike natives; and near the southern edge of the desert the danger from attack by the lion is added. It evidently requires courage and great powers of endurance to engage in the caravan trade.

Fig. 311.
Sudanese people from the Egyptian Sudan.

Caravans which cross the desert carry the products of central Africa to the coast. These include ivory, skins, and ostrich feathers obtained by bartering with the negroes.

Egypt and the Neighboring British Territory. — Egypt proper and the Libyan desert are parts of the broad Sahara and have all the features of the desert just described. Even at Cairo the average yearly rainfall is but an inch and a half. In climate, both for summer and winter, northern Egypt closely resembles the desert portion of western Arizona and southeastern California.

The Nile. — The Egyptian Sudan and the country south of it, on the other hand, have a tropical climate, arid in the north, but warm and humid in the south, where the influence of the tropical rains is felt. The headwaters

of the Nile, near the equator, are fed by such heavy rains that the river is able to flow across the desert in spite of the fact that no tributaries enter the lower half of its course. How great a distance is that?

Without the Nile the whole of northern Egypt would be a sparsely inhabited desert; but the precious river waters transform the section near the Mediterranean (Fig. 313) to a great oasis which has become the seat of

FIG. 312.
Sailboats on the lower Nile.

an important agricultural industry, and is densely populated.

After leaving the region of equatorial rains and the savannas, the Nile crosses the desert through a valley — in places a thousand feet in depth — which it has cut in the plateau. In this part of its course there are several cataracts (see Fig. 297). The Nile resembles the Colorado River of the United States, which, after leaving the Rocky Mountains, flows in a deep canyon across the arid plateau of Arizona; but the canyon of the Colorado is much deeper than that of the Nile. Below Cairo the river leaves its narrow valley, divides into several channels, and flows across a plain (Fig. 313). This plain is the *delta* which the Nile has built in the Mediterranean Sea during the ages that the river has been bringing

sediment from its upper course. It is from the Nile that we have obtained the word delta, now applied to similar deposits

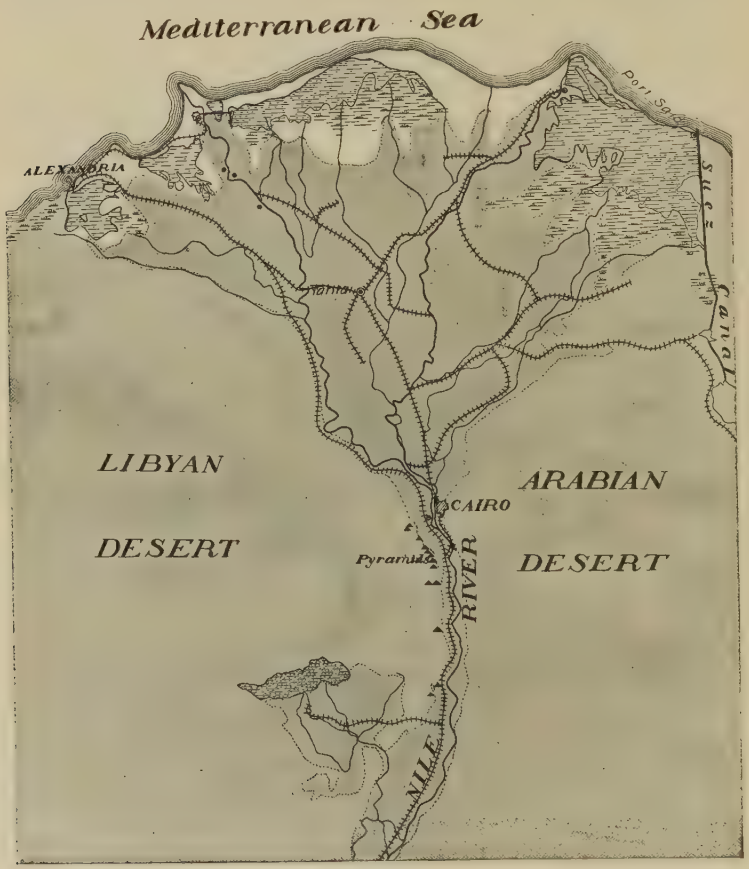


FIG. 313.

The lower Nile. The shaded area between the two deserts is farming land which is reached by water from the river. The numerous crossed lines are railways. Find the Pyramids. Why is the location at the head of a fertile delta, and at the outlet of a narrow river valley bounded by desert, a favorable one for a large city?

at the mouths of rivers in various parts of the world. The word comes from the Greek letter delta (Δ), which has the form of a triangle. Notice that shape in Figure 313.

When the rainy season comes to the Nile tributaries among the Abyssinian mountains, the river rises so high that it overflows large tracts of the broad delta below Cairo. The rise begins in June and reaches its height in

FIG. 314.
The great Pyramid of Cheops.

October. By this overflow not only is the land irrigated, but a thin layer of fine mud is spread over the fields. This serves so to fertilize the soil that, year after year, heavy crops may be raised without making the soil sterile.

Agriculture. — In consequence of these remarkably favorable conditions, the Nile delta has been occupied by an agricultural people from the very earliest times. It is still the seat of a great grain industry, producing

wheat, corn, millet, and barley. Much rice and sugar cane are also raised, and cotton which is of especial value because of its long fibre. There are many vineyards, and orange, lemon, and fig groves; and both along the Nile and on the oases of the desert there are groves of

Fig. 315.

The Sphinx and two of the Pyramids.

date palms (Fig. 306). Grazing is of importance in the Nile Valley, and on the neighboring plateau. The animals raised include the buffalo and camel in addition to sheep, goats, cattle, horses, and donkeys.

The People. — The known history of Egypt reaches back several thousand years before the time of Christ. The fertile soil and favorable climate, added to the protection from frequent wars which the surrounding desert

and sea afforded, encouraged the development of industry and thrift. By the mixture of agricultural and pastoral races there arose a civilization in advance of that of the neighboring sections of Europe and Asia. In fact, at the time when Europe was inhabited by barbarians, and the peoples of western Asia were unorganized, Egypt had made long advances in civilization.

FIG. 316.
An obelisk in Egypt.

We read in the Bible of the Pharaohs who ruled over Egypt. Can you recall any of the Bible stories which relate to these rulers; for example, the story of Joseph? During those times the Egyptians built the obelisks (Fig. 316), the sphinx (Fig. 315), and those marvellous structures, the pyramids (Figs. 306 and 314), which are really the tombs of kings. By a peculiar process they preserved the bodies of their dead, and these *mummies* may be seen in the museums of many large cities. Among the mummies are the remains of the Pharaohs themselves.

FIG. 317.
An Arab woman in Cairo.

In the movement westward of the people

FIG. 318.
An Egyptian sheik, a descendant of Mohammed.

who dwelt along the eastern shores of the Mediterranean and farther east in Asia, Egypt became one of the highways of the world, and against its people many destructive wars were waged. As other nations have advanced, the Egyptians have steadily lost ground. The famous conqueror, Alexander the Great, overcame them and founded the city of Alexandria; later the Romans made conquest of the territory; and repeatedly since then the country has been invaded, for it has continued to be a highway of trade for three continents. At present Egypt is required to pay annual tribute to Turkey, but she is otherwise practically independent of Turkey; and the ruler, or *Khedive*, is a hereditary monarch. The government of Egypt was so bad that the French and British finally stepped in and took control of the finances of the nation. When the French declined to aid in subduing a

FIG. 319.
A Fellah woman and child.

rebellion in Egypt, the British alone assumed a large share in the control of Egyptian affairs.

The great majority of the Egyptians are Mohammedans (Fig. 318), but they are divided into several classes. The most numerous class is that of the *fellahs* (Fig. 319), or peasants, who live along the Nile and are apparently descendants of the ancient Egyptian farmers. In the towns most of the business is in the hands of the *Copts*, who are the rem-

FIG. 320.
The Suez Canal at Port Said.

nants of the ruling classes of ancient Egypt. They are still Christians in spite of centuries of oppression by the Mohammedans. A third class is that of the Arabs, among whom are the nomadic *Bedouins* (Fig. 307) who dwell in the desert.

As a result of British direction there has recently been marked progress in Egypt. Extensive irrigation works have been undertaken, and the land area for cotton and sugar cane has thereby been greatly increased. By means of reservoirs and canals it is further proposed to reclaim

thousands of square miles of the desert. A number of railway lines has also been built (Fig. 313), including a part of the proposed line from Cairo to Cape Town (p. 426). Outside of the Nile Valley, however, travel still depends largely upon the use of camels (Fig. 306).

FIG. 321.
A view of a part of Cairo.

Suez Canal. — Northeastern Egypt includes the Isthmus of Suez, which connects Africa with Asia. This narrow neck of land has for centuries stood as a barrier to water travel from Europe to southeastern Asia, compelling European vessels to pass all the way around Africa in order to reach southern Asia. Little wonder is it, therefore, that a ship canal has been built there.

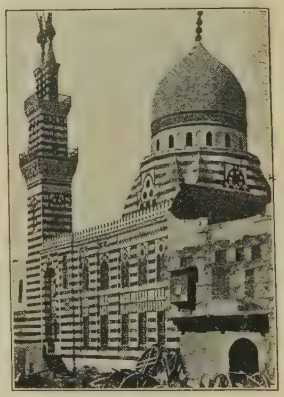


FIG. 322.
One of the mosques in Cairo.

The Suez Canal, begun in 1859, was completed in 1869. It extends from SUEZ to PORT SAID (Fig. 297), and is eighty-seven miles long, with a depth of twenty-six feet and a width at the surface varying from sixty-five to one hundred and twenty yards. Its length is much greater than that of the proposed Panama Canal, but the difficulties of construction were less. The country is very level, and, as in the case of the proposed Nicaraguan Canal, a part of the

course (about twenty-one miles) is through a lake. Ten vessels on the average pass through the Suez Canal each day. Estimate the distance saved by this canal in going from London to Calcutta. By agreement among nations it cannot be captured and closed in time of war.

FIG. 323.
An Arab school in the streets of Cairo.

Cities. — At the head of the delta, just above the point where the Nile branches (Fig. 313), is CAIRO, the capital and largest city of Egypt and, in fact, of all Africa. It is about the size of St. Louis, having a population of 570,000. This interesting place is visited each year by a stream of tourists, some seeking a winter health resort, others attracted by the strange life of the country and the remarkable ruins of the old civilization (Figs. 314–316).

Cairo itself contains the palace of the Khedive, several interesting mosques (Fig. 322), and a museum in which are preserved many Egyptian antiquities and works of art. The inhabitants also attract attention, for in the streets may be seen many people with different languages and peculiar customs. The differences among the people may be illustrated by the following fact: there are three Sabbaths each week,

Friday, the Sabbath of the Mohammedans, Saturday, observed by the Jews, and Sunday, by the Christians.

Alexandria, connected with Cairo by rail (Fig. 313), is the seaport of Egypt and the second city in size in the country. The harbor, which is a very busy place, is protected by a sea wall nearly two miles in length. The chief business is the export of cotton, sugar, grain, and other Egyptian products, and the importation of manufactured goods. More than half the trade is with Great Britain.

Fig. 324.
The costume of women in Algeria.

The Barbary States. — Find the position of each of these four countries. Each borders the Mediterranean, but extends southward into the desert (p. 427).

The Atlas Mountains skirt the Mediterranean coast from the Atlantic to Tunis, where their projection into the Mediterranean forms the most northerly point in Africa. These mountains contain many valuable mineral products, including precious metals in Morocco and Algeria, and marble and alabaster in the latter country. These mineral resources, however, have been but slightly developed.

Since the Atlas Mountains cause vapor to be condensed when winds blow from the ocean or from the Mediterranean, many of the valleys are well watered. Forests cover some of the mountain slopes, and one of the valuable trees is the cork oak, the bark of which is removed for

shipment from Algeria to Spain and Portugal. Camels, sheep, goats, and cattle are raised among the mountains and upon the plateaus. In the season of rainfall — our winter — they are driven to the plains on the borders of the desert.

Agriculture is carried on here and there, often by means of irrigation, with water supplied by the mountain snows and rains, as in southern California. The villages are therefore situated where valleys open to the plains. Among the crops produced, besides dates and grains, are figs, grapes, and olives. Wine from the grapes of Algeria is shipped in large quantities to France; and the best olive oil and the best dates in the world come from Tunis.

FIG. 325.
A scene in Morocco, on the edge of the Sahara.

The original occupants of this region, the *Berbers*, still dwell on the desert and among the mountains, having been driven there long ago by invading Arabs. Most of the inhabitants are Mohammedans. Tripoli is still a Turkish province, but Tunis and Algeria are held by France. However, the native ruler, or *Bey*, of Tunis is permitted to direct affairs in his country under the supervision of

France. Morocco is the only one of the Barbary States that maintains independence, being ruled by an absolute monarch, or *Sultan*. Can you suggest why the conflicting interests of Spain, France, and England should prevent conquest by any one?

Many of the inhabitants of Morocco are still barbarians, and some of the tribes among the mountains even refuse to recognize the rule of the Sultan. On the whole the people are cruel and treacherous, and if a vessel is wrecked upon their coast, it is sure to be plundered by them. Only within the last hundred years have they been obliged to abandon their custom of seizing Christians and holding them for ransom.

Fig. 326.

A street in the "Old Town" of Algiers.

Conditions of life in Morocco are shown by the following: The writer once visited a school in Tangier consisting of a dozen boys from nine to ten years of age. The room where they studied received its only light from the open door, and it contained no seats, desks, or furniture of any kind. The children sat on the floor in a semi-circle around a long-bearded old man, who likewise sat on the floor, and the only object they had before them was a page from the Koran, or Mohammedan Bible. What does such a condition of education indicate in regard to progress? If this is the case on the coast, almost within the shadow of Europe, what must be the condition farther inland?

Almost the only manufacturing in these states is hand work. Beautiful silk and woollen goods are made, and also articles of

leather. Most of these articles are intended for their own use; but because of the beauty of the work some are exported.

These countries are only partially developed. Caravan trade, herding, and agriculture are the chief occupations. Excepting in northern Algeria and Tunis, there are no railways and few roads. In fact, in many parts the only way to travel is on horseback or on camels, along paths worn by the sheep and goats. Even agriculture is carried on in the most primitive fashion, some of the methods employed being those of two thousand years ago.

Fig. 327.
Church of Notre Dame in Algiers.

The houses are made of stone and sun-dried brick (Fig. 325), with thick walls to keep out the heat of summer. They are commonly low and one storied, although some of the larger buildings are interesting and even beautiful (Fig. 327). Much the same style of architecture was introduced into the New World by the early Spaniards, who were taught it by the Moors when they invaded Spain from northern Africa.

The capitals are the principal cities among the Barbary States. Fez, one of the capitals of Morocco, is in the interior; but the Sultan and his court do not reside there all the year. Name the other capital. Tangier, on the

coast, is better known. Why should it be? In Algeria the seaport ALGIERS is the capital and largest city. It is an interesting place, combining many features of ancient and modern times. Under the French it has become an important trading centre. The same is true of TUNIS,

FIG. 328.

A view of the plateau of South Africa. A Zulu village in the foreground.

the capital of the country by that name. Locate the capital of Tripoli.

SOUTHERN AFRICA

Comparison with Northern Africa. — In some important respects there is a resemblance between northern and southern Africa, although they lie in different hemispheres. What similarities are there in climate (p. 419) and physi-

ography (p. 415)? There is a resemblance, too, in the fact that both sections have long been settled by white men. What difference is there in the length of occupation by white men?

The People. — It is to the Dutch that we owe the first important development of South Africa. Settling at Cape Town, and then spreading over the neighboring

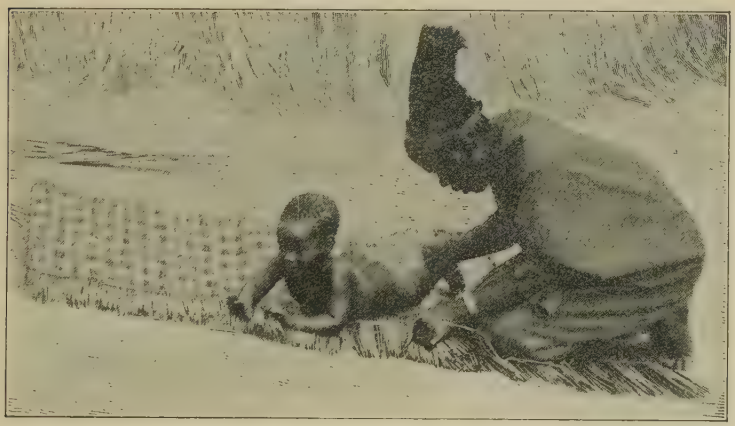


FIG. 329.

A Zulu woman making a straw mat.

region, they took possession of the country occupied by the negroes and introduced the European industries of farming and ranching.

When Cape Colony came into possession of the British (p. 426), many of the Dutch remained; but others emigrated, or "trekked," northward and found new homes in the interior. There they established two republics, the Transvaal and the Orange Free State, in which they desired to continue the customs of their forefathers and live in the pursuit of agriculture and herding.

Doubtless the *Boers*, as these people are called, would have been left to themselves but for the discovery of wonderfully rich deposits of gold. The mines were developed by British capital, and friction arose between the mine owners and the Boers. War followed, as a result of which the Transvaal and the Orange Free State were declared British colonies in 1900.

Fig. 330.
A pineapple field in South Africa.

At present, therefore, the British control a broad strip from the southern tip of Africa northward to the southern end of Lake Tanganyika. What are the names of the British colonies in South Africa (Fig. 297)? What nations control the land to the east and west of the British possessions? Besides the Boers there are many British in South Africa, especially in Cape Colony and at the gold mines of the Transvaal. There are also large numbers of negroes in this region, particularly in the tropical section and in Zululand in northern Natal (Fig. 303). Some of them, like the Zulus, have fiercely opposed the encroachment of the whites and still maintain semi-independent states. They are, however, making progress toward civilization.

Agriculture and Grazing. — Along the east coast, and in some of the interior valleys, agriculture is an important industry. Sugar, bananas, pineapples, tea, coffee,

and rice are raised near the coast, where the climate is warm and damp. But wheat, tobacco, vegetables, and grapes are produced in the cooler south, and upon the uplands wherever the rainfall is sufficient or irrigation possible.

By far the greater part of South Africa is an arid plateau (Fig. 328), whose elevation causes cold winters

FIG. 331.
Cattle in the Transvaal.

in spite of the latitude. Forests are absent, and little wood is found excepting that which comes from the thorny acacia bushes of the plains and the willows and other trees that grow along the streams. Excepting in the real desert, the grass springs into life after the summer rains (November and December), and the country becomes green and beautiful. Then follows a long drought, when the vegetation withers. But, as in the

arid part of western United States, the dried grass is a sort of natural hay upon which cattle and sheep thrive.

Upon this plateau, therefore, immense numbers of cattle, sheep, and goats are raised, and also many ostriches. It is estimated that in Cape Colony alone there are over eighteen million sheep and goats, one million cattle, and two hundred and fifty thousand ostriches. In consequence, the production of wool, hides, meat, and ostrich feathers is of great importance. Of what value are these products to Great Britain?

Mineral Wealth. — The discovery of gold in South Africa has brought great changes, as among the mountains in the arid section of western United States. This metal is found scattered through a conglomerate rock in the Transvaal, near the city of JOHANNESBURG, which on that account has become the largest city of South Africa. This district has become the most important in gold production in the world; in 1898 more gold was mined here than in the entire United States.

Other valuable minerals, including copper, iron, and coal, also occur; but as yet they have been little developed. At KIMBERLEY in Cape Colony, however, are diamond mines, which now supply ninety-eight per cent of all diamonds.

The diamonds occur as rounded crystals in a decomposed volcanic rock, and are obtained by digging out the soft rock (Fig. 332) and carefully removing the crystals. After this the crystals must be cut into the proper shape and polished. There are various grades, some clear and beautiful, others impure and dull. So productive is this deposit of precious stones that $160,000,000 worth have been removed in eleven years. There is only a limited demand for diamonds; but the

company in control is careful not to mine enough of them to reduce the price greatly. This is possible since the Kimberley mine owners have a practical monopoly of the diamond production of the world.

Commerce and Cities. — The two chief rivers of South Africa are of little use as trade routes. The Orange River

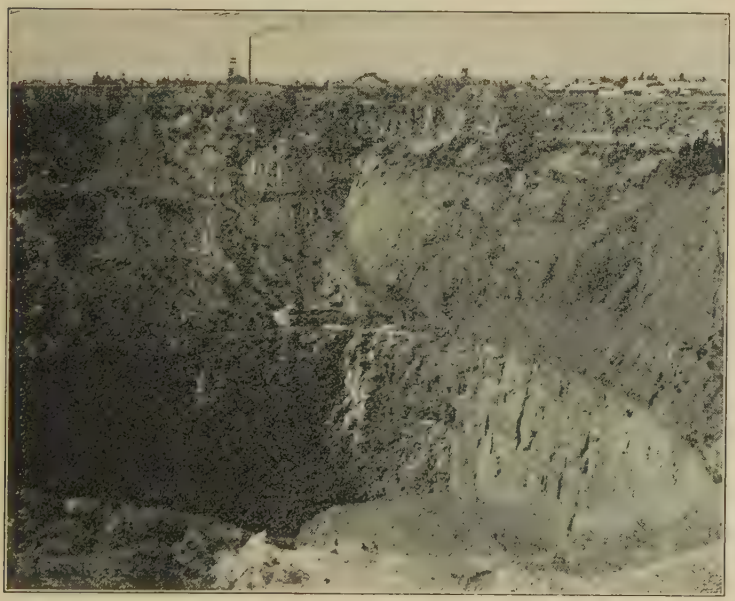


FIG. 332.
A diamond mine at Kimberley.

is not navigable, because of lack of water and the presence of rapids at the edge of the plateau. The other, the Zambezi, is navigable by small boats for a distance of three hundred miles from its mouth; but the climate near the coast, especially on the delta, is warm and unhealthful. Rapid water checks further navigation, and

at one point there is a cataract, the Victoria Falls (see map, Fig. 297), which rivals even Niagara in grandeur. This cataract has a width of over a mile and a height of four hundred and fifty feet. It is therefore both wider and higher than Niagara; but the volume of water is less.

Nor is the coast especially favorable to commerce. For long distances there are no good harbors, while the river

Fig. 333.

Cape Town with Table Mountain (3500 feet high) in the distance.

mouths are choked with sand bars which render entrance difficult. A breakwater has made Table Bay a good port, and around its shores, beautifully situated at the base of Table Mountain (Fig. 333), is Cape Town, the capital and largest city of Cape Colony. It is connected with the interior by a railway line, the southern end of the proposed railway from Cape Town to Cairo.

A second important harbor is that of Delagoa Bay, upon which is situated LOURENÇO MARQUEZ, the capital of Portuguese East Africa. Being connected by rail with the interior, this port has been much used for the shipment of Transvaal products. Notice how much nearer it is to Johannesburg from this point than from Cape Town. DURBAN, the seaport of Natal, is a small city also connected with the Transvaal by rail. The two principal interior cities are KIMBERLEY and JOHANNESBURG (p. 448). There is no important town in

FIG. 334.

A scene at the market in Kimberley. Oxen are extensively used by the Boers as draught-animals.

German South Africa, which is for the most part an arid plateau. To what nation does *Walfisch Bay* belong?

CENTRAL AFRICA

This vast area is in large part a great unknown. Much of it is tropical forest; but on the northern and southern sides are open savannas (p. 418).

The Rivers. — Owing to the heavy rainfall of the forest belt, the rivers are large. The Nile and Zambezi, already

described, and the Niger and Kongo, all receive water from the equatorial rains. The Niger is navigable in sections; but there are rapids in some parts, and in its northern portion the river dwindles in size because of the dry climate. Its large tributary, the Benue, is navigable.

It is the immense Kongo, which empties into the sea a few degrees south of the equator, that offers the best

FIG. 335.
A steamer on the Kongo.

means of entrance to Central Africa. Although it is interrupted by a series of falls a short distance from the coast, above Stanley Pool there are thousands of miles of navigable waters in the main river and its tributaries.

It was Stanley who first explored the Kongo, in 1876; and since that time this part of Africa has been rapidly developing. Formerly it was necessary to carry goods around the rapids, each native porter carrying about sixty pounds. Only in this way was Stanley able to carry his boats to the navigable portion farther up stream. Now, however, a railway two hundred and fifty miles in length connects the lower Kongo with Leo-

poldville on Stanley Pool above the falls. From there, at all seasons of the year, steamers may go a thousand miles up the river and also into many tributaries.

Resources. — Half a century ago the most important industry in tropical Africa was trade in negro slaves, obtained by means of war, by raids, or by purchase from the chiefs, and sold to slave dealers to be shipped abroad. Now the shipment of plant and animal products takes the place of the slave trade. But there is still much slave-trading among Africans themselves.

On the forest edge and in the savannas elephants are still hunted for the valuable ivory of their tusks. The forests yield rubber; the dried meat of the cocoanut is exported as copra; and there are valuable gums, spices, and tropical woods. Agriculture and grazing are also carried on, though few of the products are exported. So little is known about this region that no one can tell what valuable minerals may exist there.

The People. — Very few Europeans have settled in Central Africa, and the native blacks live almost as their ancestors did. Contact with civilization, however, has caused some changes, as the introduction of firearms and some slight improvements in the methods of farming. Most of the inhabitants live in ingeniously built huts clustered in villages. They have a kind of tribal government, each tribe having a leader whose power is absolute, and under whom are minor chiefs. Some of the tribes are cannibals. In religion they vary greatly, though all are intensely superstitious (p. 91).

Among the blacks none are more remarkable than the *pygmies* whom Stanley discovered in the equatorial forest, where large numbers live in an area of about thirty thousand square

miles. The adults are only three or four feet in height. They live exclusively by hunting, by gathering the vegetable products of the forest, and by theft from the neighboring agricultural tribes. Their villages are usually built in the forest where two paths cross, and the huts are shaped like a turtle's back, being about four and a half feet high, ten feet long, and

FIG. 336.

A scene in tropical Africa, on the bank of the Kongo.

five or six feet wide. In that hot climate they find need for but little clothing.

With a small spear, a short bow with poisoned arrows, and a knife, they hunt with wonderful skill, and by means of pitfalls they capture even the elephant. They know the forest intimately, and neither bird nor beast can escape them. According to Stanley they offer one of the greatest obstacles to exploration; for they appear stealthily, attack a party with great courage, and then disappear in the trackless woods.

Divisions of Central Africa. — European nations have been active in claiming the greater part of Central Africa; but their control over the native inhabitants is merely nominal, and the boundaries of the different sections are not well defined. We shall study briefly some of the more important divisions.

The Sudan includes the vast area between the Sahara and the tropical forest. What can you tell about its climate? (p. 418). More than half of the Sudan is claimed by the French, and most of the remainder, including the *Niger Territories* and the *Egyptian Sudan* (p. 430), is held by the British. The inhabitants are nomadic in the north, and agricultural in the south, though they raise little more than is needed for their own use. There is some gold in the west; but the principal products are ivory, ostrich feathers, and gums.

The Sudan is difficult of access, being bordered by the Sahara on the north, the tropical forest on the south, and the plateau edge on the east, west, and southwest. Water routes are of little service, since some of the drainage is into interior basins, like Lake Chad, and some into the Nile and Niger, which are interrupted by rapids. The difficulty of reaching Timbukto, for example, is shown by the fact that there is still an important caravan route from that place across the wide Sahara to the Mediterranean (p. 428). A railway from Timbukto to the sea is now under consideration. What influence would it probably have on this caravan route? Why?

East of the Sudan is *Abyssinia*, which is for the most part a rocky plateau crossed by mountains and difficult of access. Its condition is indicated by the fact that the capital is periodically changed when the supply of firewood is exhausted. It is evident, therefore, that there are not many fine government buildings. The inhabitants are mainly whites belonging to very different tribes which are often hostile to one another. Many of the people

still hold to Christianity notwithstanding the invasion by Mohammedans nearly four centuries ago. In 1889 Italy laid claim to the whole of Abyssinia; but in 1896 King Menelik destroyed the Italian army, and the Italian claim was withdrawn. Italy still holds *Eritrea* and *Italian Somaliland*. What other nations occupy a part of the coast on the border of Abyssinia?

The map shows several small countries on the west coast of Africa in the part marked *Upper Guinea*. Find *Lower Guinea*. The divisions colored pink belong to the British; those marked green to the Germans. Find a section belonging to Spain.

One of the divisions of Upper Guinea is *Liberia*, which is of special interest to Americans. It is a negro republic established by Americans as a home for freed slaves, and its capital, MONROVIA, is named after President Monroe. No white man is permitted to become a citizen. Besides uncivilized negroes in the interior, the republic includes fully twenty thousand negroes with some knowledge of civilization, all living near the coast. The coastal strip is damp and unhealthful; but back of it is the forest-covered plateau slope. The products are chiefly coffee, palm oil, and sugar. It was the example set by the British in founding *Sierra Leone* as a home for liberated slaves, that led to the establishment of the republic of Liberia.

Kongo State, crossed by the equator and drained by the Kongo and its tributaries, was founded by the king of Belgium, who supported Stanley in his explorations of this region. It is in large part a forest-covered plateau; but there are sections of grass land. Hordes of savages, including the pygmies, inhabit the forests and savannas; the buffalo, elephant, and leopard live in the rivers; and the roar of the lion is frequently heard.

Through the building of the railway around the cataract of the Kongo, and by the aid of steamers above and below

the falls, the resources of this great area are beginning to be drawn upon. From it are obtained large quantities of ivory, rubber, palm-oil, gum, and pepper, as well as tropical woods.

East of the Kongo State are British and German territories. What are they called? What is their climate? What prod-

FIG. 337.
A scene in tropical Africa.

ucts would you expect? Observe to what extent the British claim Africa. What break is there in the British territory between the Cape of Good Hope and the Mediterranean? What variety of climate does the British territory include?

Need of Railways. — One of the great needs of Central Africa is railways for transportation to and from the sea. The three large lakes, Nyassa, Tanganyika, and Victoria Nyanza, are of great service in the transportation of goods, and already there are steamers upon them. Elsewhere

caravans of native porters bear the products on their backs, travelling along narrow paths through the forest. The difficulties and expense of such transport are great.

With British and German energy we may expect that railways will soon reach to various parts of the interior of Africa; in fact, a railway to Victoria Nyanza is already well under way (Fig. 297). With such railways even tropical Africa, during the present century, promises to be opened up to development and settlement.

Islands near Africa

The large island of *Madagascar* is two hundred and thirty miles from the mainland. It has an area of about two hundred and twenty-eight thousand square miles, and is, therefore, much larger than any of our states excepting Texas. There is much highland in the country, especially on the eastern side; but the coastal region is lowland. The island is controlled by the French, and produces cattle, hides, valuable tropical woods, rubber, and coffee. While there are some Arabs, and tribes of negro origin in the west, the natives are for the most part Malays, called *Hovas*, who came by water from the northeast.

Of the many small islands near the coast of Africa the northernmost are the *Madeira Islands* on the west side. These, together with the *Cape Verde Islands* farther southwest, have belonged to Portugal since the early Portuguese voyages of discovery. The Spanish *Canary Islands* lie between these two groups. Find other islands along the west coast (Fig. 297) which belong to Spain and Portugal.

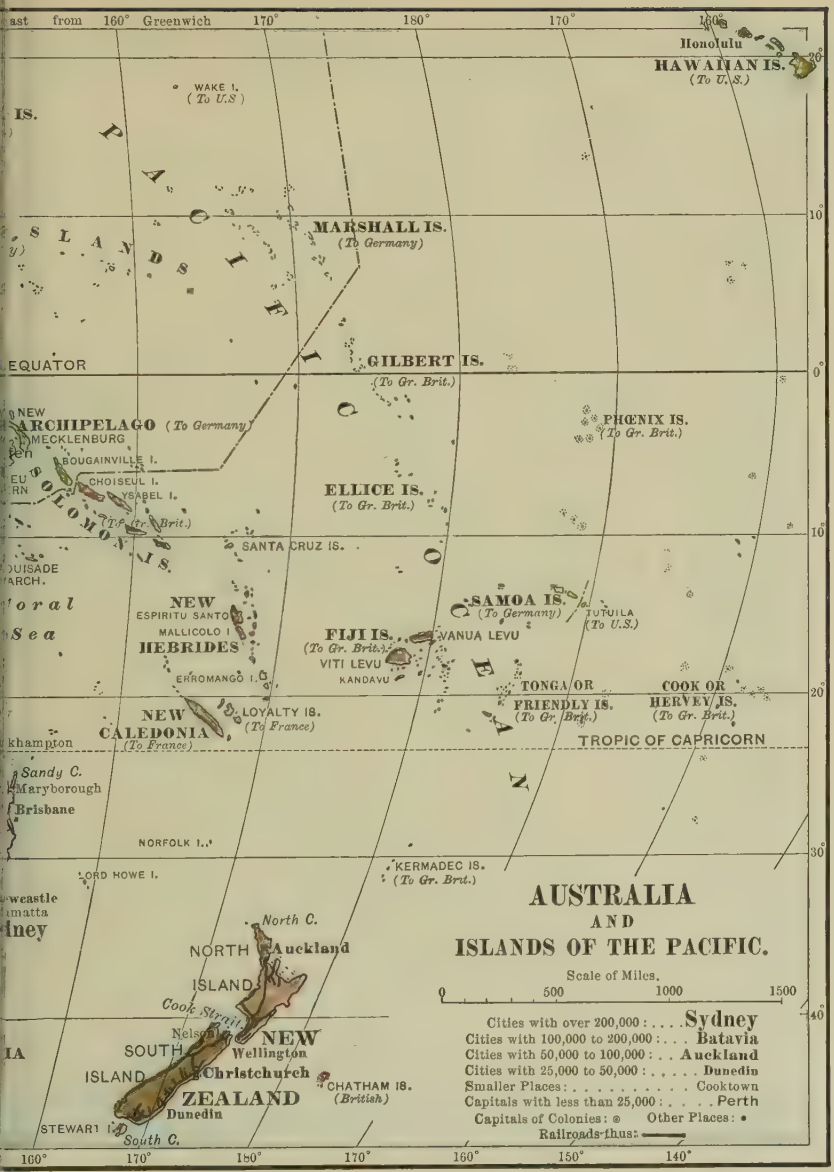
Ascension Island and *St. Helena*, south of the equator, are, like the above-named groups, volcanic. They belong to Great Britain, and St. Helena attained notoriety as the prison home of Napoleon Bonaparte. The principal small islands on the eastern side of Africa are *Zanzibar* (British) near the coast, and *Reunion* (French) and *Mauritius* (British) east of Madagascar. Locate each of these (Fig. 297). Find other French and British islands. These islands are of value as naval stations. Their inhabitants are engaged in fishing and in agriculture, raising sugar cane and other tropical products.

Review Questions.— (1) What is the shape of Africa? (2) Compare the coast of Africa with that of other continents. (3) Tell about the highlands; the rivers and lakes. (4) Describe the belts of climate, and compare them with those of South America. (5) Describe the plant and animal life and compare it with such life in Asia. (6) Tell about: (*a*) the negroes; (*b*) the nomads; (*c*) the whites in the north. (7) Tell about explorations and settlements by (*a*) Portuguese; (*b*) Dutch; (*c*) British. (8) What have been some of the principal obstacles to such explorations and settlements? (9) Name and locate the Barbary States. (10) What portions of northern Africa are under the control of European countries? (11) Describe the Sahara. (12) Describe the caravan trip. (13) Tell about Egypt: the climate; the Nile River; agriculture; people and government; Suez Canal; principal cities. (14) Describe the Barbary States: their raw products; manufactures; commerce; inhabitants; government. (15) State resemblances between northern and southern Africa. (16) Tell about South Africa: the people; agriculture and grazing; mining. (17) What about the value of the Orange and Zambesi rivers for commerce? (18) Locate and tell about each of the cities: (*a*) Cape Town; (*b*) Lourenço Marquez; (*c*) Durban; (*d*) Kimberley; (*e*) Johannesburg. (19) Tell about Central Africa: the climate and rivers; the resources; the people and their customs. (20) Name and locate the principal divisions of Central Africa. (21) Tell about: (*a*) the Sudan; (*b*) Abyssinia; (*c*) Somaliland; (*d*) Liberia; (*e*) Sierra Leone; (*f*) Kongo State. (22) What about the need of railways? (23) Name the principal islands near Africa and give some facts in regard to them. (24) Name the principal possessions of the British in Africa (Fig. 297). (25) Name the possessions of other European countries.

REVIEW AND COMPARISON. — (1) Give several reasons why Africa has been explored and settled so much later than either North or South America. (2) What rivers of North America resemble those of Africa in having rapids and falls that interfere with commerce? (3) Contrast the Mississippi River with the Nile. Make a drawing of each, showing the principal tributaries and towns. (4) Compare the Kongo with the Missouri in length; with the Amazon (Appendix II.). (5) Compare the area of Lake Victoria Nyanza with that of Lake Superior (Appendix II.). (6) Is Africa on the whole as well adapted to agriculture as is South America? Give your reasons. (7) Make a sketch map of the Atlantic and compare the position of Africa with that of South America. What part of America is in the same latitude as the Sahara? (8) Cape Horn is how much farther south than Cape of Good Hope? (9) Why is not a large part of northern South America a desert, like northern Africa? (10) Compare southern Africa with southern South America in products and importance. Why the difference?

SUGGESTIONS. — (1) What per cent of the present population of the United States belongs to the negro race? (2) How do the negroes compare with the Indians in their willingness and ability to adopt civilized customs? (3) Read the Bible story of Joseph in Egypt. (4) Read the story of Moses. (5) Find out some facts about the Pyramids. (6) Why is England especially benefited by the Suez Canal? (7) What obstacles are in the way of building railways across the Sahara to take the place of caravans? (8) Read about our short war with Tripoli in 1804. (9) Why was the southern point of Africa called the Cape of Good Hope? (10) Examine a diamond to see how it has been cut. (11) Find out something about missionary work in Africa. (12) What reasons can you give for sending missionaries there? (13) Find out about the peculiar animal life upon the island of Madagascar. (14) Compare Madagascar with Cuba in regard to latitude, area, products, and people. (15) Find some facts about Livingston, Mungo Park, Stanley, and other African explorers. (16) Read one of the books of these explorers. You will find Du Chaillu's books on Africa very interesting. (17) Who were Bartholomew Diaz and Vasco Da Gama, and what part did they take in the discovery of the water route to India? (18) Find out about Krüger and the British war with the Boers in 1900.

Longitude
100°
110°
120°
130°
140°
20°
10°
0°
10°
20°
30°
40°
80°
90°
100°
110°
120°
130°
140°
ASIA
SIAM
Bangkok
Hue
HAINAN
China
Sea
Gulf of Siam
Saigon
C. Cambodia
MALAY PENINSULA
Achiu
Strait of Malakka
Malakka
Singapore
Kuching
SUMATRA
Padang
BANCA
Palembang
BILLITON
Benkulen
Sunda Str.
Batavia
Jokjokarta
Surakarta
BALI
LOMBOK
SUMBAWA
SANDALWOOD
Samarang
Surabaya
(To Netherlands)
Makassar
BORNEO
(To Netherlands)
NATUNAS
LABUAN
Brunei
NORTH BORNEO
Brit.
Dagupan
San Carlos
Manila
LUZON
PHILIPPINE ISLANDS
Tarlac
Batangas
MINDORO
SAMAR
Calbayog
PANAY
Iloilo
PALAWAN
Cuyo Is.
Negros
Cebu
(To U. S.)
NEGROS
Sulu Sea
MINDANAO
Sandakan
SULU IS.
Celebes Sea
Molucca Passage
GILOLO
MOLUCCA OR SPICE IS.
CELEBES
(To Netherlands)
Banjermasin
BURU
CERAM
Banda Sea
ARU IS.
TIMOR LAUT
Arafura Sea
FLORES
Ende Port
TIMOR
Timor Sea
Torres Str.
C. York
Palmerston
Gulf of Carpentaria
C. Leveque
INDIAN OCEAN
NORTHERN TERRITORY
Roebuck
N. W. Cape
WESTERN AUSTRALIA
McDonnell Range
Flinders R.
TROPIC OF CAPRICORN
L. Amadeus
SOUTH AUSTRALIA
Salt Lakes
Geraldton
GREAT VICTORIA DESERT
L. Eyre
L. Gairdner
Perth
Freemantle
Banbury
C. Leeuwin
Albany
Great Australian Bight
Adelaide
Spencer Gulf
KANGAROO
Encounter Bay
Murray R.
Darling R.
Port Augusta
Geelong
Launceston
Bass St.
NEW GUINEA
Papua
Port Moresby
QUEENSLAND
Cooktown
Bathurst
Coolgardie
Ballarat
Comparative Area
PENN.
45,215 Square Miles.
THE M.-N.CO.



AUSTRALIA AND ISLANDS OF THE PACIFIC.

Scale of Miles.

0 500 1000 1500

Cities with over 200,000 : . . . . Sydney
Cities with 100,000 to 200,000 : . . . Batavia
Cities with 50,000 to 100,000 : . . Auckland
Cities with 25,000 to 50,000 : . . . . . Dunedin
Smaller Places : . . . . . Cooktown
Capitals with less than 25,000 : . . . . Perth
Capitals of Colonies : ⊛ Other Places : •
Railroads thus : ═══

XXIII. AUSTRALIA AND ISLAND GROUPS

Map Questions (Fig. 338). — (1) Judging from the railways and cities, which is the best-settled part of Australia? (2) Which part is least settled? (3) What reasons can you suggest for these facts? (4) From the lakes and rivers what do you infer concerning the climate of the interior? (5) How does Tasmania compare in area with Pennsylvania? (Appendix II.). With your own state? (6) Make the same comparison for New Zealand. (7) Make a sketch of Australia to show the location of the several divisions.

(8) Make a list of the island groups belonging to the United States; to Great Britain; Germany; the Netherlands; France. (9) Which country owns the greatest number? (10) What nations claim parts of Borneo? New Guinea? (11) Find the area of each of these islands (Appendix II.) and compare it with the area of your own state. (12) What must be the temperature and rainfall conditions in these islands? (13) What, then, about their products?

Australia

Physiography. — Australia lies apart from the rest of the world, an island continent in the water hemisphere and the only continent wholly in the southern hemisphere. Isolated for ages, its plants and animals differ (Fig. 344) from those in other parts of the earth (p. 66). With its area of nearly three million square miles, it approaches the United States or Europe in size. But it has been settled by Europeans so recently, and so much of its surface is desert (Fig. 338), that it is much less densely populated than the other continents. Much of the interior is practically unexplored, partly because of the desert and partly because of the absence of interior navigable waters.

The surface, like that of Ireland, suggests a plate in form, since the low interior rises gradually to plateaus

FIG. 339.

and mountains which often descend steeply toward the sea. While there are some low, short ranges in the interior, the highest land is in the east, where the mountains run parallel to the coast. In the southeast some of the peaks reach a height of over a mile.

The mountains of eastern Australia, like the Appalachians of North America, are the worn-down remains of an ancient mountain system. Still further like the Appalachians, they served to check the extension of early settlements inland. Tasmania is really a continuation of the eastern highland, as Newfoundland is a continuation of the mountains of eastern North America.

The streams which flow eastward to the Pacific, cascade down the mountains in short courses. Of the others in eastern Australia some end in the lakes of interior basins, and some evaporate in the dry climate; but many unite with the Darling and Murray rivers, which are at times navigable for long distances. During the dry summer season, however, all excepting the Murray may dwindle to mere chains of water holes. A wave-built bar at the mouth of the Murray closes it to ocean steamers, so that, unlike the Mississippi, no large cities have grown up along its banks.

The coast line of Australia is so regular that for long distances there are no good harbors ; but the sinking of the land in the southeastern part has caused some excellent ports.

Off the northeastern coast is the *Great Barrier Reef*, the longest coral reef in the world. This has been built by coral animals, which still thrive there in great numbers. A few openings allow ships to enter the quiet channel between the reef and the land ; but navigation is not easy, and only an experienced pilot can avoid the dangerous shoals. Small sail-

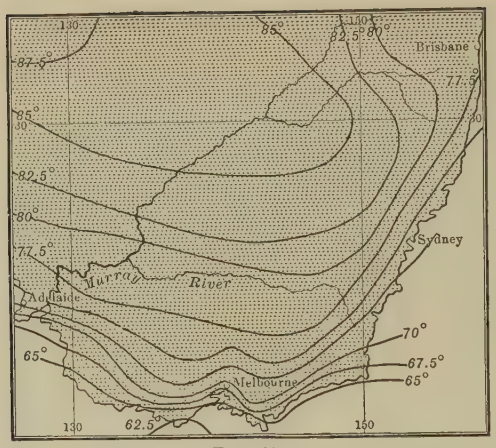


FIG. 340.

January isotherms for southeastern Australia — mid-summer for that hemisphere.

boats carrying divers and their assistants, usually Malays, are engaged on this reef and the northern shores of Australia in fishing for pearls, pearl shell, and other products of tropical waters.

Climate. — Since Australia lies within the belt of the south-east trade winds, the eastern highland has an abundant rainfall on its seaward side and is clothed with dense forests. After crossing the mountains, however, the winds are so dry that the forest gradually disappears, changing first to open, park-like wood-

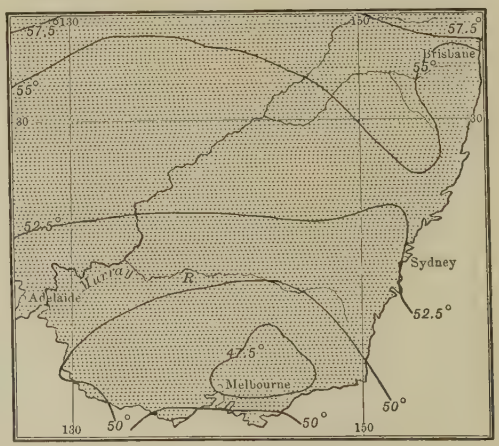


FIG. 341.

July isotherms for southeastern Australia — mid-winter for that hemisphere.

lands, then to grass-covered uplands, and finally to desert lowlands, still partly unexplored. The low interior mountain ranges cause only a slight rainfall which supplies the salt lakes of the interior.

During the southern winter the interior becomes cold, and the heavy air presses outward toward the coast as cold land winds; but during the summer the dry interior is so intensely heated that monsoon winds blow from the northeast and bring equatorial rain to the northern coasts. In this section are found areas of tropical forest. Southwestern Australia and Tasmania are reached by the prevailing westerlies, with their cyclonic storms, which bring variable weather and rainfall, as in eastern United States. These rainy sections are also clothed with forests.

FIG. 342.
Eucalyptus forest in Australia.

It is therefore only along portions of the coast that there is enough rainfall for agriculture, while the interior, and much the greater part of the continent, is either arid or actual desert. Much of the interior is adapted to ranch-

ing, though some parts are even too arid for that; but the southeastern coast, whose equable climate reminds us of the Mediterranean, will support a dense population.

Plants and Animals. — Australian vegetation is not only peculiar, but also strikingly adapted to the climate of the country. In the interior, as in other desert regions, grass and flowering plants have gained the power to make rapid growth and to mature their seeds quickly, so that a few days after a rain the barren sands become carpeted with green as if by magic.

FIG. 343.
Undergrowth in the Australian forest.

Among the desert grasses, one of the most remarkable is the porcupine grass which grows on the sandy plains of the northwest interior, and is so hard, wiry, and spiny as to prevent passage through it. Plants with leaves which taste of salt also thrive here, being fitted for growth on plains that are too arid and alkaline for grass. These "salt bushes" are so valuable as forage for sheep and cattle that they are now introduced into the arid section of southwestern United States.

The scrub trees that flourish in the arid interior have developed a foliage able to resist evaporation. For example, the gum trees (Eucalyptus) hold their narrow leaf blades vertically with only the edges toward the sun's rays; the leaves of wattles (Acacia) and other plants have shrunk to thorns; and some trees secrete odorous oils which check evaporation. The leaves are too tough and leathery to wilt, and their dull greens give a sombre tone to the scattered woods. In these interior forests, which the settlers call "scrub," the thorny acacia and

FIG. 344.

Some Australian animals. The platypus lays eggs like a bird or reptile. The kangaroo, like other marsupials, carries its unprotected young in a pouch. Where else have we found large running birds like the emu?

the close-set stems of the gum — rising to a height of a dozen feet — form a thicket through which a lost traveller may wander until death relieves his thirst.

On the equable rainy slopes near the coast some of the gum trees are giants, in some cases four hundred feet in height. They rival the "Big Trees" of California, which also thrive where damp winds blow from the ocean. The undergrowth of the forest, which is almost tropical in character, includes tree ferns, palms, and orchids. These dense woods are called the "bush."

We have already seen (p. 66) that the Australian animals are peculiar (Fig. 344). Describe some of them. State the reasons for their difference from animals of other continents.

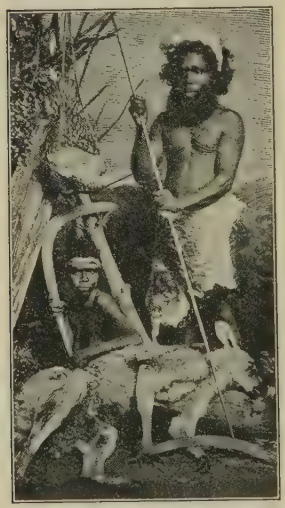


Fig. 345.
An Australian savage.
(See also Fig. 55.)

History — When discovered, Australia was sparsely settled by blacks allied to the negroes of Africa, but differing from them in many respects. Of these savages it is estimated that about seventy thousand remain, of whom about a third still wander in the wild interior, scantily clad (Fig. 345), building the rudest of shelters, and gaining their living by hunting. They still use that peculiar weapon, the *boomerang* (Fig. 346), which, when properly thrown, will fly in curves and even return to the thrower.

Although for a long time it had been known that there was an Australian continent, settlements were not made there until 1788. Neither the country nor the products

were tempting to the early Spanish and Dutch explorers, and those nations colonized other lands of greater promise. It was not until the famous English navigator, Captain Cook, led an expedition to this southern continent that the fertile southeastern coast was discovered.

For a while the distant land was used as a regular penal station to relieve the crowded condition of English jails, and naturally free settlers came to the country slowly. But their number gradually increased, and, after long agitation, the transportation of criminals was stopped.

FIG. 346.
Australian boomerangs.

Almost at the same time that gold was discovered in California it was also found in southeastern Australia, and tens of thousands of people rushed there to wash the sands for the precious metal. Since the miners needed supplies, many of the settlers turned their attention to other industries, especially agriculture and grazing. Therefore in Australia, as in California, the gold mines led quickly to the development of the country's resources.

New South Wales, as the first colony was called, finally grew so large, and the settlements were so scattered, that it became difficult to control it under a single government. Consequently Tasmania, Victoria, and Queensland were successively set off as separate colonies. South Australia and West Australia, however, were settled as distinct colonies. The several divisions were at first controlled by military governors sent from England; but as the country became better developed, the colonies were granted more freedom, although still receiving governors from England.

FIG. 347.

Density of population in Australia and neighboring islands.

The colonies prospered under such popular government, each with its own laws, some having free trade, some imposing tariffs on goods imported from other colonies. Common interests, however, early awakened a desire for union; and finally, on January 1, 1901, they were united to form the *Commonwealth of Australia*. This new commonwealth has a government similar to that of Canada, and is independent of England in all matters excepting those which affect the British Empire as a whole. The

population, which equals that of the United States when her Constitution was adopted, is rapidly growing.

Nearly all the Australian settlers have come from the British Isles, and the unity of the race has led to a peaceful growth. As in England, education has been encouraged, church schools now being replaced by practically free, compulsory education in public schools. There are colleges at the capitals, and two important universities. The English love of outdoor sports is fully maintained, and great skill is naturally developed in a climate where it is possible to practise cricket, football, tennis, and rowing all the year round.

Sheep Raising. — Although it was gold that brought population to Australia, her greatest wealth lies in her flocks of Merino sheep. Australian wool is the finest in the world. Sheep were first known in Asia, where doubtless they were originally wild animals; and the ancestors of the Merino were such as those tended by Jacob. From Asia the breed spread along the Mediterranean and found in Spain a favorable, dry climate. From this point flocks were taken to the early Dutch colony of South Africa and thence to Australia. The Merino sheep had for centuries been carefully tended in Europe and separated from coarse-wooled varieties; and when it was found that

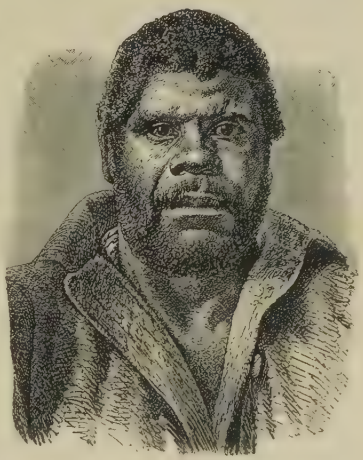


FIG. 348.
The last Tasmanian, a race now entirely extinct.

the climate and natural herbage of Australia really improved the quality of their wool, the English demand for that product led to a rapid development of the sheep-raising industry. It has now spread to the newly discovered pastures west of the mountains.

In the early days of Australia the flocks were reared upon the unfenced government land, as in western United States. The sheep were driven to pasture and water, and cared for at night by lonely shepherds, much as in the days of David. But now the land is largely fenced with wire, each sheep station having its own "*run*" or ranch. The largest ranches contain fully a hundred thousand sheep, and employ men enough to make a little village, with a store, a church, and a school. As in Argentina, each run is divided into sections, or "*paddocks*," by wire fencing, so that the sheep of different ages and conditions may be separated. The mildness of the climate makes it unnecessary to provide winter protection for the animals, and now that the wild dogs have been exterminated, the sheep no longer need much care from shepherds.

When warm weather begins, the sheep are gathered to the shearing sheds. Bands of skilled shearers go through the country, some starting in Queensland and following the season southward from station to station. With deft use of clippers, they remove the fleece from a sheep in a few minutes. The fleeces are then carried by boys to sorting tables, where the wool is assorted according to quality and made ready for pressing into bales for shipment. Formerly lines of wagons, laden with wool, toiled down to the seaports and brought back a yearly supply of food and clothing; but now railways and steamers aid in transportation, and small towns have developed as trade centres.

During most of the year life at a sheep station is monotonous. At times horsemen run down the emu (Fig. 344) for sport, or hunt kangaroos with dogs. Since their introduction from Europe rabbits have so increased as to be a great pest because

of the grass that they eat, and thousands of miles of rabbit-proof fence have been built to exclude them from good pasture land. Their rapid increase is due to the absence of natural enemies in this far-away continent.

Animal Products. — To-day grazing is the characteristic and most important occupation in Australia. There are

FIG. 349.

A sheep run in Australia. The water in this artesian well rises from a layer of porous rock over six hundred feet below the surface.

over a hundred million sheep, and fully half the exports consist of wool ; but frozen or canned mutton and beef, together with tallow and hides, are also sent to England. Horses are bred for export, and cattle and swine are raised in large numbers. While the sheep graze in the arid interior, cattle are more numerous in the districts where there is heavier rain. Many cattle, especially near the coast, are raised for their dairy products, and butter is exported to England. At the season when the cows of

Belgium and Denmark are stalled because of the cold, the dairy herds of New South Wales are feeding on fresh pastures. Explain the causes of the difference.

Farming. — Since agriculture secures a larger return from the soil than grazing, sheep have been driven from the damp lowlands and from those portions of the plateaus where the rainfall is sufficient for crops. Even in the interior there is farming where irrigation is found possible. In some cases water is supplied from streams; in others, from artesian wells (Fig. 349). Such wells are possible in a number of places where water exists in layers of porous rock beneath the parched plains. Upon boring to these layers, the water gushes forth for use.

Wheat is the most important crop aside from hay, and enough is raised to place Australia twelfth among lands raising this grain.

The farm products are distributed according to climate. For example, while oats and other hardy grains increase southward to Tasmania — since cold increases in that direction — corn is important only from New South Wales northward. There are large sugar plantations on the warm coast of Queensland; and in western Australia, where there are gold mines in the arid interior, much hay is raised for the animals employed at the mines.

As in our Pacific states, fruits are an important product. They range from tropical varieties on the northern coast to oranges and other warm temperate fruits southward, and finally, in the highlands and in Tasmania, to the orchard and small fruits of the cool temperate lands. In Victoria and South Australia, vineyards for the production of wine are of importance. Some of this fruit raising is carried on by the aid of irrigation, as for instance in the Murray River Valley, where the water is supplied by the melting snows of the mountains. In what months would the snows melt there?

Mining. — The gold of Australia, like that of California, was first obtained from the gravels, and mines were later opened along the veins in the mountain rocks. Unlike the condition in western United States, however, absence of water has prevented hydraulic mining on a large scale. Gold mining is still of great importance, Australia ranking second among gold-producing nations (Fig. 418). New deposits are discovered as the country is explored, the recent development of western Australia being largely due to such discoveries.

Fig. 350.
A gold mine in Australia.

Copper mining greatly aided in the early development of South Australia, and rich copper mines are now worked in Tasmania. Silver and tin are other important mineral products. Coal is well distributed and of good quality. The best-developed field is near the coast of New South Wales, and some coal is exported. Rich iron ores, together with limestone, are found associated with these coal fields, and the mining and working of iron will follow with the growth of the country.

Manufacturing. — Some wool is manufactured into cloth; some leather is tanned and made into shoes; and much flour is made from the wheat. There are sawmills and

planing mills; and other forms of simple manufacturing are carried on. But for the most part the raw products of Australia are shipped abroad to be manufactured. Most of these products go to England, and the commonwealth depends upon the mother country for most of its manufactured articles. Australia is passing from the pastoral to the agricultural

Fig. 351.
Sydney harbor.

stage of her development, and the stage of extensive manufactures is yet to come.

Cities. — Australian cities have grown very rapidly, and one-third of the people live in the capitals of the six colonies. Favored as the seats of government and as seaports, and connected with the interior by government railways, these capitals have become the leading commercial centres. They are characterized by fine government buildings, and by abundant provision of parks and gardens for the people. Their large suburbs afford homes for the workingmen and save them from the crowded life in tenement houses.

Melbourne, the largest city in Australia and the capi-

tal of Victoria, is beautifully situated at the head of a broad harbor. SYDNEY, the capital of New South Wales, founded in 1788, and, therefore, the oldest city of Australia, is noted for its fine harbor (Figs. 351 and 352). At this point the coast faces deep water for a hundred miles; it consists of coves alternating with headlands

FIG. 352.
A view of a part of Sydney.

and is dotted with fine residences set in park-like grounds. Both of these cities rank among the great seaports of the British Empire. ADELAIDE is a third large city. Of which division is it the capital? Name the other capitals.

Since nine-tenths of the Australians live on the coast lands, much of the commerce is carried on by means of steamboats, and most of the cities are seaports connected by rail with the interior farms, mines, and sheep country. A few mining centres, like BALLARAT and BENDIGO in Victoria, have become large towns. Ballarat owes its growth partly to its trade as the centre of a fine farming and grazing country.

Island Groups

New Zealand. — More than a thousand miles southeast of Australia are the two large, mountainous islands of New Zealand. In the South Island there are great glaciers among the mountains, while in the North Island there are active volcanoes, and also hot springs and geysers, like those of the Yellowstone National Park.

Since these islands lie in the course of the stormy westerlies, there is heavy rainfall on the western slopes. Therefore the mountains are clothed with forests of pine and other trees, with many kinds of ferns and tree-ferns beneath. On the lee or eastern slopes the rainfall is less, and the land is covered with wiry grasses.

In the south the crops are those of the cool temperate belt; but in the north the climate is mild enough for oranges. Can you suggest how ocean currents may influence the temperature of the north and south? (Fig. 38). What effect must the presence of water on all sides have upon the temperature?

New Zealand is so distant from other lands that few of the larger animals, excepting birds, have ever reached the islands. The native people, or *Maoris*, who must have come to the islands in boats, were a hardy, warlike race, living in protected villages, amidst cultivated fields. Their opposition to newcomers delayed settlement by the English until a half-century after the founding of Sydney. They are now overpowered, and those that survive live mostly in the interior of the North Island. Many have so fully adopted civilized ways that they are allowed representatives in the legislature.

As in Australia, pastoral industries take the lead. There are twenty million sheep, and frozen mutton and

wool are exported to England. Cattle are likewise kept, and butter is exported. Agriculture is important, especially in the districts of fertile volcanic soils on the North Island; but much land that is suited to farming has never been cleared of forest. There are both gold and coal mines among the mountains; and from their slopes are obtained valuable timber and a gum used for varnishes.

FIG. 353.
A view in New Zealand.

Manufacturing is only slightly developed, and is chiefly for home use.

Although the industries and life of this English colony resemble those in Australia, its interests are so different that they have prevented its joining the Australian federation — just as the island colony of Newfoundland has declined to join the Dominion of Canada. The situation of these islands in the temperate zone is favorable to rapid progress; and the vigorous immigrants from the British Isles have developed the resources wonderfully, and have established one of the best governments in the world.

Many short lines of railway connect the settled interior with the seaports; roads and stage lines extend to the more distant districts; and steamers ply around the coasts and to distant countries. There are four prominent cities of nearly the same size, the smallest of which is WELLINGTON, the capital, and the largest, AUCKLAND, about as large as Duluth in Minnesota.

The East Indies. — Between Asia and Australia are hundreds of islands, some very large, others so small that they find no place on our map. Of these the great majority have animals, plants, and people of Asiatic origin. New Guinea, however, which is nearest to Australia, bears a resemblance not to Asia but to Australia. It is, therefore, usually considered a part of Australasia, while the islands to the west and northwest are classed with Asia.

New Guinea, north of Australia, is one of the largest islands in the world, having an area equal to Texas and Pennsylvania combined. Although three times the size of New Zealand, it contains a smaller population, composed mainly of savages. This difference is due to its position in the torrid zone. The heavy tropical rainfall has clothed most of its surface with dense forests, so that the high mountain ranges and the unhealthful lowlands (Figs. 66 and 67) of the interior are almost unknown.

While the islands farther west are overrun with Malays from Asia, the natives of New Guinea are Papuans (Fig. 60), resembling the native Australians. The animal life also resembles that of Australia, indicating that this island, like Australia, has long been separated from Asia. Former connection with Australia is further indicated by the fact that the two are now separated only by a shallow sea.

The three nations that claim New Guinea maintain only trading stations on the coast; and the tropical forests, the fertile soils, and the minerals remain to be utilized in the future.

The other islands have also a tropical climate, and are clothed with dense forests in which the elephant and rhinoceros, as well as other Asiatic animals, are still found. Most of the natives are Mohammedan Malays from Asia, but some of them are pagans.

The *Philippine Islands*, which belong to the United States, are really a northern extension of the East Indies. What can you tell about them? (p. 516).

Most of the other islands of this region, including Sumatra, Java, the Celebes, and a large part of Borneo and New Guinea, are *Dutch colonies*. What nation controls the island of Timor? To which nation does northern Borneo belong? Borneo, with a greater area than all the New England and Middle Atlantic states together, is one of the largest islands in the world. The immense size of these islands is indicated by the fact that Sumatra is larger than California, while Java has a greater area than New York State.

All of the larger islands are mountainous; in fact, they are parts of mountain ranges rising out of the sea, and among them are many active volcanoes, some of which have had terribly destructive eruptions. There are lowlands near the coasts, and many coral reefs skirting them. Indeed, a large number of the smaller islands are merely coral reefs slightly elevated above the ocean.

Since they are so near the equator, and therefore have a heavy rainfall, these islands have tropical products. The forests supply valuable woods and gums, including gutta-

percha and camphor. Large areas, especially in Java, are highly cultivated and produce quantities of rice, sugar cane, and coffee. In the production of the last two articles Java is one of the leading regions of the world (Figs. 427 and 428). Among the noted products of the East Indies are spices, such as pepper, cloves, and nutmegs; in fact, one of the island groups is known as the Spice Islands. What is the other name? There are also valuable minerals, including tin, gold, and precious stones; and from the sea are obtained beautiful pearls and pearl shells.

FIG. 354.
A native house in the Friendly (Tonga) Islands.

The Dutch have been remarkably successful in managing their East Indian colonies, which are a source of great wealth; yet the larger islands are so mountainous, and the forests so dense, that great areas are scarcely known. The Dutch East Indies are fifty times as large as the Netherlands and have seven times as many inhabitants, or nearly half as many as in the United States.

The largest city among these islands is MANILA, in the Philippines; and next in size is BATAVIA, the centre of the Dutch colonial government.

Islands of the Pacific. — The map (Fig. 338) shows the western Pacific dotted with island groups; but these islands are so small that, although there are many hundreds of them, their

combined areas are little more than half that of New Zealand. They are the higher peaks of great mountain folds rising from the ocean floor. Many of them are volcanoes, others submerged peaks upon which corals have grown and formed coral islands.

What names among them have you heard before? To what nations do the groups belong? Although under the control of these foreign nations, the local government is usually administered by native chiefs.

Fig. 355.
A native village in the Fiji Islands.

Together these islands have a population of less than a million; but the natives have been decreasing in numbers, partly because of drunkenness and disease following contact with Europeans. Although missionaries have converted many to Christianity, others remain savages, and some even practise cannibalism. They are the best sailors of all the natural races, and in past centuries reached the islands in boats from Asia, going from group to group.

There is a marked difference between life on the "low," or coral, and that on the "high," or volcanic, islands. Volcanic islands, like Fiji, whose peaks rise several thousand feet, are heavily forested on their rainy, windward slopes; and their fertile soil encourages agriculture. Thus the coffee plantations of New Caledonia and the sugar plantations of Fiji recall the

products of the volcanic Hawaiian Islands. As in Hawaii, also, bananas and pineapples are raised for home consumption and for export.

On the low coral islands, on the other hand, the cocoa palm is the mainstay of human life, supplying food, clothing, shelter, boats, many utensils, and the means of trade as well. *Copra*, the main export from Samoa and from many of the Pacific islands, is the dried meat of the cocoanut, of value for its oil and as food. There is, of course, little mineral wealth in the volcanic and coral islands; but in some of the islands, where mountain folds reach the surface, there are mineral deposits, such as the nickel found in New Caledonia. Among the coral reefs beautiful pearls are found.

Review Questions. — *Australia.* (1) What about its position, area, and population? (2) Where are the mountains? (3) What resemblance is there to North America? (4) How do the streams vary in the several sections? (5) What is the nature of the coast? (6) Tell about the Great Barrier Reef. (7) How does the rainfall vary in the different parts of Australia? Give the reasons. (8) What differences in plant life are thus caused? (9) What is the influence on industries? (10) Mention some of the ways in which the plants are adapted to their surroundings. (11) Tell about the forests. (12) What about Australian animals? (13) Tell about the natives. (14) Give reasons why Australia was not settled earlier. (15) What finally led to rapid settlement and development? (16) Tell about the government: early condition; union of colonies; present condition. (17) Tell about sheep raising: the Merino sheep; introduction to Australia; development of industry; care of the sheep; shearing; transportation of wool; life on a sheep run. (18) What are the animal products? (19) Tell about farming: water for irrigation; principal products; variation in crops according to climate. (20) What mineral products are found? (21) What is the condition of manufacturing? (22) Why are the capitals so important? (23) Name and locate the three largest cities; what can you tell about each? (24) What about other towns?

Island Groups. (25) Tell about New Zealand: its surface features; climate; native animals and people; leading industries; development; cities. (26) Tell about New Guinea: size; position; climate; people; animals; resemblance to Australia; resources. (27) What

about the animals, plants, and people of the East Indies? (28) To what nations do the islands belong? (29) What about their size? (30) Tell about their physiography, climate, and products. (31) What about the success of the Dutch in the East Indies and the extent of their possessions there? (32) Tell about the small island groups: their names; position; origin; government; people; products.

COMPARISONS. — (1) Australia resembles South Africa in its surface, climate, occupations, and products. State how this is true. (2) Australia also resembles western United States in climate, in occupation and products, and in the order of development of her resources. Describe these points of resemblance. (3) In what respects does southern South America (Chile and Argentina) resemble Australia? (4) What differences are there in climate due to difference in form of the two land masses? (5) What differences in the present condition of development due to the history and the races of each? (6) What part of Australia has the same latitude, in the southern hemisphere, that southern Florida has in the northern? (7) Which of our states most nearly equals New Zealand in area? (8) What peninsula of Europe resembles New Zealand in shape? How do the two countries compare in area? In population? (9) What advantages over Australia has the United States enjoyed in that it has attracted settlers from so many different nations? (10) What part of South America most resembles the East Indies in climate and products? Make the same comparison for North America.

SUGGESTIONS. — (1) If it were within your power, how would you arrange the highlands of Australia so as to secure the most even distribution of rain? (2) Estimate the greatest length of New Zealand. (3) Estimate the distance from Batavia to Manila. (4) Write your impression of the climate of Melbourne in January; in July. (5) Through some fruit dealer obtain a cocoanut in its husk and examine it. (6) Read Whittier's poem on the Palm Tree. (7) Learn something about the work of missionaries in the small Pacific islands. (8) Collect pictures for the school, showing the islands and their life. (9) By what routes can one go from New York City to Australia? Through what waters? Which would be the shortest? About how many miles? (10) Answer the same questions for a voyage from New York to Manila. (11) Read in Tarr's "Elementary Geology" (pp. 251–256) about the origin of atolls. (12) Read about the eruption of Krakatoa (same book, p. 343) in the Sunda Strait, near Batavia.

Fig. 356.

Relief map of North America.

(Modelled by E. E. Howell.)

NORTH AMERICA.
Scale of Miles.
0 500 1000
Capitals: ⊙ Other Cities: •
Comparative Area
PENN.
45,215 Square Miles.
ASIA
ARCTIC OCEAN
Bering Sea
Bering Str.
WRANGEL I.
Pt. Barrow
PRIBILOF Is.
ALASKA
KODIAK I.
Mt. St. Elias
Yukon R.
Mt. Logan
Juneau
Sitka
Great Bear Lake
Great Slave Lake
Mackenzie R.
Dawson
ARCTIC CIRCLE
ARCTIC ARCHIPELAGO
GREENLAND (To Denmark)
ICELAND (To Denmark)
Baffin Bay
Davis Strait
BAFFIN LAND
DOMINION OF CANADA
QUEEN CHARLOTTE Is.
VANCOUVER I.
Victoria
Vancouver
Columbia R.
Cascade Range
Rocky Mountains
L. Athabasca
Hudson Bay
Nelson R.
James R.
Lake Winnipeg
LABRADOR
NEWFOUNDLAND
St. John's
C. Race
Gulf of St. Lawrence
Kamloops
Quebec
Montreal
Ottawa
St. John
Halifax
NOVA SCOTIA
Boston
New York
Philadelphia
Baltimore
Washington
Chicago
The Great Lakes
Toronto
Niagara R.
St. Lawrence R.
Missouri R.
Mississippi R.
Ohio R.
Appalachian Mts.
C. Hatteras
BERMUDA Is. (Br.)
ATLANTIC OCEAN
PACIFIC OCEAN
Cape Mendocino
San Francisco
Great Salt Lake
Sierra Nevada
Coast Ranges
Colorado R.
Green R.
Arkansas R.
Red R.
UNITED STATES
St. Louis
New Orleans
Florida
Florida Str.
C. Sable
BAHAMA (Br.) ISLANDS
WEST INDIES
Havana
Gulf of California
Rio Grande
Rio Sierra Madre
MEXICO
Gulf of Mexico
TROPIC OF CANCER
C. San Lucas
Mexico
Vera Cruz
YUCATAN PENINSULA
GREATER ANTILLES
HAITI
PORTO RICO (To U.S.)
JAMAICA (Br.)
LESSER ANTILLES
Caribbean Sea
Acapulco
CENTRAL AMERICA
Lake Nicaragua
PROPOSED NICARAGUA CANAL
ISTHMUS OF PANAMA
Colon
Panama
SOUTH AMERICA
120° 110° 100° Longitude West 90° from Greenwich 80° 70°
THE M-N. CO.

FIG. 357.

3
125°
120°
115°
110°
105°
Longitude 100° West
C. Flattery
Vancouver
Victoria
Seattle
Olympia
Tacoma
Mt. Rainier
WASHINGTON
Spokane
Portland
Columbia R.
Mt. Hood
Salem
OREGON
Cascade Mts.
DOMINION
Regina
Missouri R.
MONTANA
Helena
Butte
Yellowstone R.
NORTH DAKOTA
Bismarck
IDAHO
Boise
Snake R.
YELLOWSTONE NATIONAL PARK
WYOMING
Deadwood
Black Hills
Pierre
SOUTH DAKOTA
Sioux R.
Mt. Shasta
Sacramento Mts.
Coast Ranges
Mendocino C.
Great Salt Lake
Ogden
Wasatch Mts.
Salt Lake City
Cheyenne
NEBRASKA
Platte R.
NEVADA
Virginia
Carson City
Sacramento
San Francisco
Carson Valley
Sierra Nevada Mts.
Sierra Nevada
UTAH
Grand Jc.
Denver
Leadville
COLORADO
Pikes Peak
Pueblo
KANSAS
Arkansas R.
Mt. Whitney
Tulare L.
Grand Canyon
Pt. Conception
Los Angeles
San Francisco Mt.
Santa Fé
Canadian R.
OKLAHO
Guthrie
ARIZONA
Albuquerque
San Diego
Colorado R.
Phœnix
NEW MEXICO
Gila R.
Tucson
Pecos R.
Red
Brazos
TEXAS
Austin
San Antonio
Rio Grande
PACIFIC OCEAN
Gulf of California
LOWER CALIFORNIA
MEXICO
30°
25°
115°
110°
105°
Longitude 100° West

FIG.

Greenwich
90°
85°
80°
75°
70°
65°
CANADA
Lake of the Woods
L. Superior
Duluth
St. Paul
WISCONSIN
Milwaukee
Madison
Chicago
Des Moines
IOWA
Grand Rapids
Lansing
Detroit
L. Michigan
L. Huron
Sault Ste. Marie
MICHIGAN
Toronto
L. Ontario
Niagara Falls
Buffalo
L. Erie
Erie
Cleveland
Toledo
Ft. Wayne
Peoria
Springfield
ILLINOIS
INDIANA
Indianapolis
Columbus
Cincinnati
OHIO
Wheeling
Pittsburg
Harrisburg
PENNSYLVANIA
Philadelphia
Baltimore
W. Washington
VIRGINIA
Charleston
Kansas City
St. Louis
Jefferson City
MISSOURI
Ozark Mts.
Evansville
Frankfort
Louisville
KENTUCKY
Richmond
Petersburg
Norfolk
Chesapeake Bay
Cairo
Mammoth Cave
Raleigh
C. Hatteras
Nashville
TENNESSEE
Chattanooga
Memphis
Fort Smith
ARKANSAS
Little Rock
Mt. Mitchell
NORTH CAROLINA
Wilmington
SOUTH CAROLINA
Columbia
Charleston
Atlanta
GEORGIA
Savannah
MISSISSIPPI
Vicksburg
Jackson
ALABAMA
Montgomery
Mobile
Baton Rouge
LOUISIANA
New Orleans
Galveston
Tallahassee
Jacksonville
St. Augustine
FLORIDA
Tampa
C. Sable
Key West
GULF OF MEXICO
Havana
CUBA
Quebec
Montreal
Ottawa
Lawrence R.
Adirondack Mts.
Saratoga Spgs.
Rochester
Albany
Catskill Mts.
Hartford
New Haven
Niagara R.
Hudson R.
Montpelier
VERMONT
N. HAMP.
MAINE
Fredericton
Augusta
MT. DESERT I.
Portland
Concord
MASS.
Boston
C. Cod
Providence
Newport
LONG I.
New York
Trenton
Camden
Atlantic City
Dover
Annapolis
Del. R.
Potomac R.
James R.
York R.
Rappahannock R.
Tennessee R.
Cumberland R.
Ohio R.
Wabash R.
Kaskaskia R.
Missouri R.
Mississippi R.
Red R.
Sabine R.
Alabama R.
Chattahoochee R.
Savannah R.
ATLANTIC OCEAN
BAHAMA ISLANDS
UNITED STATES
Scale of Miles.
0 50 100 200 300
Capitals of Countries
Capitals of States
Other Cities
THE M.-N.CO.
95° Greenwich
90°
85°
80°
75°
25°
30°
35°
40°
45°

74°
72° Longitude West
70° from Greenwich
68°
47°
45°
43°
41°
Quebec
St. Lawrence R.
QUEBEC
Lake St. Peter
Chaudiere R.
St. John R.
NEW BRUNSWICK
Houlton
Mt. Katahdin
Moosehead Lake
Schoodic Lake
Penobscot R.
Montreal
Richelieu R.
MAINE
Calais
Eastport
Bangor
St. Albans
Lake Champlain
Burlington
Androscoggin R.
Kennebec R.
Mt. Washington
Montpelier
White Mts.
Augusta
Auburn
Lewiston
Rockland
Bar Harbor
MT. DESERT I.
Bath
Green Mts.
Rutland
VERMONT
Connecticut R.
NEW HAMPSHIRE
Portland
Biddeford
Rochester
Dover
Concord
Portsmouth
Manchester
Merrimac R.
Troy
Brattleboro
Keene
Albany
Nashua
Lawrence
ATLANTIC
Lowell
Salem
C. Ann
Gloucester
Massachusetts
Cambridge
Lynn
MASSACHUSETTS
Boston
Bay
Holyoke
Worcester
Springfield
C. Cod
Plymouth
Pawtucket
Cape Cod Bay
Hartford
Providence
Fall River
OCEAN
CONNECTICUT
Waterbury
RHODE ISLAND
New Bedford
New Haven
Newport
NANTUCKET I.
Bridgeport
MARTHAS VINEYARD I.
BLOCK I.
Hudson R.
Long Island Sound
Montauk Pt.
LONG ISLAND
New York Bay
New York
NEW ENGLAND STATES
Scale of Miles.
0 10 20 30 40 50 100
Capitals ◎ Other Cities •
THE M·N. CO.

FIG. 359.

MIDDLE ATLANTIC STATES.
Scale of Miles.
0 25 50 75 100 200
Capitals of Countries:
Capitals of States:
Other Cities:
Canals:
81° Longitude West 77° from Greenwich 73°
Quebec
Montreal
Ottawa
Ottawa River
St. Lawrence R.
Georgian Bay
LAKE HURON
LAKE ONTARIO
Lake Champlain
Montpelier
Adirondack Mountains
Ogdensburg
Watertown
L. George
Toronto
Rochester
Oswego
Mohawk R.
Saratoga Springs
Troy
Albany
Connecticut R.
VERMONT
MASS.
CONN.
Hudson R.
Catskill Mountains
Poughkeepsie
Hartford
Newburgh
Long Island Sound
ALONG ISL.
Lockport
Niagara Falls
Syracuse
Utica
Little Falls
Amsterdam
Schenectady
Cohoes
Auburn
Ithaca
Buffalo
Dunkirk
Detroit
St. Clair R.
Detroit R.
LAKE ERIE
Chautauqua Lake
Jamestown
Elmira
Binghamton
Erie
Cleveland
Youngstown
Allegheny R.
Williamsport
Susquehanna R.
Scranton
Wilkes Barre
Paterson
Jersey Cy.
Newark
Brooklyn
New York Bay
NEW YORK
Trenton
PENNSYLVANIA
Allegheny
Pittsburg
Altoona
Harrisburg
Reading
Lancaster
Philadelphia
Camden
JERSEY
Wilmington
OHIO
Zanesville
Wheeling
Columbus
Cumberland
MARYLAND
Baltimore
Potomac R.
Annapolis
Parkersburg
WEST VIRGINIA
Ohio R.
Washington
Alexandria
D.C.
Chesapeake & Ohio Canal
Dover
DEL.
Cape May
Delaware Bay
Huntington
Charleston
Kanawha R.
Big Sandy R.
Guyandot R.
Allegheny Mts.
Blue Ridge
Shenandoah R.
VIRGINIA
James R.
Richmond
Roanoke
Lynchburg
Petersburg
Cape Charles
Cape Henry
Norfolk
Portsmouth
Danville
Roanoke R.
Cumberland Mts.
KY.
TENN.
Appalachian Mts.
NORTH CAROLINA
ATLANTIC OCEAN
81° 77°
THE M-N. CO.

FIG. 360.

SOUTHERN STATES.
Scale of Miles.
0 50 100 200 300 400
State Capitals: ◎ Other Cities: •
Longitude West from Greenwich
105° 100° 95° 90° 85° 80°
25° 30° 35°
COLORADO
KANSAS
NEW MEXICO
OKLAHOMA
INDIAN TERRITORY
ARKANSAS
MISSOURI
ILL.
IND.
W. VA.
KENTUCKY
VIRGINIA
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
ALABAMA
MISSISSIPPI
LOUISIANA
TEXAS
MEXICO
GULF OF MEXICO
ATLANTIC OCEAN
CUBA
BAHAMA ISLANDS
FLORIDA KEYS
Topeka
Kansas City
St. Louis
Springfield
Ozark Mts.
Arkansas R.
Ohio R.
Cumberland R.
Cumberland Mts.
Appalachian Mts.
Richmond
Roanoke R.
Raleigh
Cape Hatteras
Knoxville
Mt. Mitchell
Asheville
Charlotte
Newbern
Wilmington
C. Fear
Santa Fe
Canadian R.
Oklahoma
Guthrie
Kingfisher
Tahlequah
Fort Smith
Nashville
Memphis
Chattanooga
McAlester
Little Rock
Hot Springs
Pine Bluff
Texarkana
Red R.
Llano Estacado or Staked Plain
Denison
Paris
Sherman
Fort Worth
Dallas
Colorado
El Paso
Pecos
Pecos R.
Brazos R.
Trinity R.
Sabine R.
Waco
Palestine
Austin
San Antonio
Houston
Rio Grande
Nueces R.
Laredo
Brownsville
Galveston Bay
Galveston
Shreveport
Jackson
Vicksburg
Natchez
Alexandria
Red R.
Mississippi R.
Yazoo R.
Tennessee R.
Columbus
Meridian
Birmingham
Montgomery
Selma
Tombigbee R.
Alabama R.
Lake Pontchartrain
Baton Rouge
New Orleans
Delta of the Mississippi
Mobile
Pensacola
Athens
Rome
Atlanta
Macon
Augusta
Columbus
Greenville
Columbia
Charleston
Santee R.
Savannah
Brunswick
Thomasville
Tallahassee
Jacksonville
St. Augustine
Palatka
Apalachee Bay
St. Johns R.
C. Canaveral
Tampa
Tampa Bay
Lake Okeechobee
The Everglades
Miami
C. Sable
Key West
Florida Strait
Havana
Pedee R.
Santee R.
Savannah R.
Ocmulgee R.
Flint R.
Chattahoochee R.
Yazoo R.
Tennessee R.
Big Black R.
Pearl R.
Wichita Mts.
Red R.
Canadian R.
Arkansas R.
Ozark Mts.
Ohio R.
Cumberland R.
Cumberland Mts.
Roanoke R.

105°
101°
97°
93°
45°
41°
37°
DOMINION OF
Turtle Mts.
Lake of the Woods
Rainy Lake
Rainy R.
Red Lake
Devils Lake
Grafton
Grand Forks
Crookston
Tower
Souris R.
Mouse R.
Red River of the North
NORTH DAKOTA
Mandan
Bismarck
Jamestown
Fargo
Missouri R.
Sheyenne R.
Lake Itasca
Leech Lake
Duluth
Superior
MINNESOTA
Wahpeton
Fergus Falls
Brainerd
Mille Lacs
Mississippi R.
St. Croix R.
Little Missouri R.
Grand R.
Aberdeen
Watertown
St. Cloud
Stillwater
SOUTH DAKOTA
Deadwood
Lead
Black Hills
North Fork
Cheyenne R.
Pierre
Huron
James R.
Minnesota R.
Minneapolis
St. Paul
Red Wing
Faribault
Mankato
Winona
White R.
South Fork
Mitchell
Sioux Falls
Yankton
Niobrara R.
Mason City
Des Moines R.
Cedar R.
Sioux City
Fort Dodge
Dubuque
WYOMING
NEBRASKA
North Platte R.
Loup R.
Norfolk
Fremont
Des Moines
Marshalltown
Cedar Rapids
Davenport
Muscatine
North Platte
Omaha
Council Bluffs
Ottumwa
Grand Island
Platte R.
Plattsmouth
Burlington
Fort Madison
South Platte R.
Kearney
Hastings
Lincoln
Nebraska City
Republican R.
Beatrice
Keokuk
Missouri R.
Grand R.
Chillicothe
COLORADO
Atchison
Leavenworth
St. Joseph
Hannibal
Moberly
Solomon R.
Smoky Hill R.
Kansas R.
Kansas City
Topeka
Lawrence
Sedalia
Jefferson City
KANSAS
Ottawa
Emporia
Neosho R.
MISSOURI
Arkansas R.
Hutchinson
Wichita
Osage R.
Fort Scott
Nevada
Pittsburg
Carthage
Springfield
Parsons
Joplin
Arkansas City
Ozark Mts.
White R.
Cimarron R.
NEW MEXICO
TEXAS
OKLAHOMA
IND. TER.
ARKANSAS
THE M.-N. CO.

Fi

CENTRAL STATES
Scale of Miles.
0 25 50 75 100 200 300
Cities with over 1,000,000: . . . . Chicago
Cities with 500,000 to 1,000,000: . . St. Louis
Cities with 200,000 to 500,000: . . . . . Buffalo
Cities with 50,000 to 200,000: . . . . . Toledo
Cities with 25,000 to 50,000: . . . . . Lexington
Smaller Places: . . . . . Alpena
Capitals with less than 25,000: . . Charleston
Capitals of States: ⊙ Other Cities: •
89°
85°
81°
77°
45°
41°
37°
ISLE ROYAL
SUPERIOR
MICHIGAN
HURON
ONTARIO
LAKE ERIE
Houghton
Calumet
Marquette
Ishpeming
Sault Ste. Marie
St. Mary's R.
MACKINAC I.
Str. of Mackinac
Menominee R.
Green Bay
Cheboygan
Georgian Bay
Alpena
Marinette
Menominee
Manistee
Saginaw Bay
Toronto
Niagara Falls
ERIE CANAL
Appleton
Oshkosh
Manitowoc
Sheboygan
Fond du Lac
Muskegon
West Bay City
Bay City
Saginaw
Port Huron
St. Clair R.
Buffalo
NEW YORK
Watertown
Milwaukee
Racine
Grand Rapids
Flint
Lansing
Lake St. Clair
Detroit
Battle Creek
Kalamazoo
Jackson
Ann Arbor
Adrian
Erie
Rockford
Evanston
Elgin
Oakpark
Aurora
Joliet
Chicago
Michigan City
Elkhart
Goshen
South Bend
Toledo
Sandusky
Cleveland
Youngstown
Akron
Allegheny R.
PENNSYLVANIA
La Salle
Ottawa
Kankakee
Streator
Hammond
Fort Wayne
Maumee
Findlay
Alliance
Massillon
Canton
East Liverpool
Allegheny
Pittsburgh
Logansport
Marion
Lima
Mansfield
Steubenville
Peoria
Bloomington
Lafayette
Muncie
Piqua
Newark
Wheeling
Columbus
Zanesville
Springfield
Dayton
Marietta
Danville
Anderson
Richmond
Martinsburg
Decatur
Indianapolis
Hamilton
Chillicothe
Parkersburg
Terre Haute
Cincinnati
Portsmouth
Ironton
Covington
Newport
Ohio R.
Charleston
Kanawha R.
Huntington
Big Sandy R.
Alton
East St. Louis
Belleville
Madison
Jeffersonville
New Albany
Frankfort
Lexington
Louisville
Evansville
Wabash R.
Kentucky R.
Henderson
Owensboro
Ohio R.
Green R.
Mammoth Cave
Cairo
Paducah
Bowling Green
Middlesboro
Cumberland Mts.
Allegheny Mts.
Cumberland R.
Tennessee R.
Nashville
Knoxville
NORTH CAROLINA
West 89° from Greenwich 85° 81°

DOMINION OF CANADA
PACIFIC OCEAN
WASHINGTON
OREGON
IDAHO
MONTANA
WYOMING
NEVADA
UTAH
COLORADO
ARIZONA
NEW MEXICO
TEXAS
MEXICO
Vancouver
Victoria
New Whatcom
Everett
Seattle
Tacoma
Olympia
Spokane
Port Townsend
C. Flattery
Str. of Juan de Fuca
Vancouver Isl.
Mt. Rainier
Astoria
Portland
Columbia R.
Snake R.
Lewiston
Wallula
Kalispell
Great Falls
Missoula
Helena
Anaconda
Butte
Bozeman
Billings
Miles City
Milk R.
Missouri R.
Yellowstone R.
Bighorn R.
Powder R.
Little Missouri R.
N. DAK.
S. DAK.
Black Hills
Cheyenne R.
NEB.
Platte R.
Buffalo
Fremont Pk.
Laramie
Cheyenne
Rawlins
North Platte
Salem
Albany
The Dalles
Mt. Hood
Lagrande
Baker City
Cascade Mts.
Blue Mts.
Bitter Root Mts.
Rocky Mts.
YELLOWSTONE NATIONAL PARK
Boise
Pocatello
Ashland
Mt. Shasta
Eureka
Cape Mendocino
Coast Ranges
Sierra Nevada Mts.
Great Basin
Humboldt R.
Great Salt Lake
Great Salt Lake Desert
Utah L.
Bear L.
Logan
Ogden
Evanston
Salt Lake City
Provo City
Wasatch Mts.
Green R.
Sevier Lake
Reno
Virginia City
Carson City
Austin
Sacramento
L. Tahoe
Stockton
Oakland
San Francisco
San Jose
Fresno
Mt. Whitney
Sierra Nevada Mts.
Denver
Colorado Springs
Pikes Peak
Leadville
Cripple Creek
Pueblo
Arkansas R.
Trinidad
Blanca Peak
Durango
Grand R.
Gunnison R.
South Platte R.
Grand Canyon
Little Colorado R.
San Juan R.
Santa Fe
Las Vegas
Albuquerque
Flagstaff
Mohave Desert
Colorado R.
Pt. Conception
Santa Barbara
Los Angeles
San Bernardino Range
SANTA BARBARA ISLANDS
San Diego
Phœnix
Salt R.
Gila R.
Yuma
Tucson
Tombstone
Silver City
Roswell
Las Cruces
El Paso
Rio Grande
Gulf of California
LOWER CALIFORNIA
WESTERN STATES.
Scale of Miles.
0 50 100 200 300 400
State Capitals: ⊙ Other Cities: •
125° 120° 115° 110° 105°
50° 45° 40° 35° 30°
120° 115° Longitude West 110° from Greenwich 105°
M-N. CO.

FIG. 363.

XXIV. REVIEW OF NORTH AMERICA

Growth of the Continent. — Show the shape of North America by a drawing, and state its relative size (p. 548) among the continents. The history of this continent covers millions of years, and only a few stages of its

FIG. 364.

Model showing the distance which the Great Ice Sheet reached in the United States. (Model made by E. E. Howell, Washington, D.C.)

growth have received our attention. The period when *coal* was formed was one of the most important. Describe the process (p. 153).

During that time, and afterward, the earth's crust was being folded in various places. The resulting *mountain*

ranges have already been mentioned (pp. 96 and 99), and are indicated on Figure 356. State their arrangement (see also p. 96).

At a later period the *Great Ice Sheet* spread over much of the surface (Fig. 364). Make a list of the states that it partly or wholly covered. Tell about the glaciers in Europe at this time and some of their principal effects (pp. 154–156). Mention similar effects in the New England and other states.

Many changes have taken place in the coast line also. The *sinking of the land* in the northern part of the continent, on both the eastern and western sides, has allowed the sea to enter the valleys and to form many bays and fine harbors. Between the valleys, where the land was higher, capes, peninsulas, and islands now rise above the sea. Give examples of such bays, capes, etc. (Fig. 357). The *rising of the land*, on the other hand, has elevated the level sea bottom and added coastal plains in the South. Thus a very regular coast line has been caused in that section. Even the whole of Florida is elevated sea bottom. What has been the effect of this rising upon harbors in the Southern States and in Mexico?

The United States

Physiography.—Find the *Green Mountains* in New England (Fig. 359). Find the *White Mountains*. Name the principal rivers in this group of states, and estimate the length of the longest. What is their general direction? The *rivers of New England* flow through deep valleys cut in the plateau which they cross, and their courses are frequently interrupted by rapids and falls caused by the

glacier. New England is, therefore, a region of excellent water power.

The New England mountains are continued on the southwest by the *Appalachians*. In what states are portions of these mountains included? (Fig. 358). In what state are the *Adirondacks* and the *Catskills?* (Fig. 360).

FIG. 365.

The fall line. Coastal plains dotted, Piedmont and other sections left white. Cities printed in heavy type are located along the fall line.

On the eastern side of the Appalachians is the low *Piedmont Plateau* (Fig. 366), where, as in New England, ancient mountains have been worn down to a hilly upland. It is bordered on the east by the level *Coastal Plains* (Fig. 366), whose loose sands and clays are so much softer than the rocks of the plateau that the streams, in descending from the plateau, are marked by numerous rapids and falls. This greatly influences the location of cities. Why? Name the principal cities on this *fall line* (Fig. 365).

Name the chief rivers that enter the Atlantic between New England and Florida. Which of them cross the entire mountain system? What influence has the fact of their crossing the mountains had upon westward migration? Why are there such large bays at the mouths of these rivers? (p. 488). Why not at the mouths of those farther south?

On the western side of the Appalachian Mountains is the *Appalachian Plateau* (Fig. 366), which slopes gently

toward the Ohio and Mississippi rivers. Like the plateau of New England, it has been very deeply cut by rivers. Name several of them. Since the nearly horizontal strata of sandstone, shale, etc., contain beds of coal, these deep river valleys have been of great value in bringing the coal to light, especially in Pennsylvania and West Virginia.

FIG. 366.
Physiographic map of the United States, giving the names of the principal mountains, plateaus, and plains.

Which of the Middle Atlantic States has a large number of lakes and waterfalls? Why? (p. 488).

Most of the vast area between the Appalachian plateau and the Rocky Mountains is level land sloping gently from both sides toward the Mississippi. The *prairies* (Fig. 366) of this section rise gradually west of the Mississippi until they merge into the *Great Plains*, which continue to the very base of the Rockies. At this point the Great Plains reach an elevation of over a mile,

and are therefore much higher than most parts of the eastern mountains. What interruption of this great area of plains is found in Missouri? (Fig. 366). Near Lake Superior? (Fig. 366). In South Dakota? (Fig. 362).

Through or bordering what states does the *Missouri River* flow? The *Ohio?* The *Mississippi?* Draw the Mississippi system, inserting the names of the principal tributaries (Fig. 358). Which of the Central States (Fig. 362) do not belong entirely to the Mississippi basin? Make a drawing of the *Great Lakes* showing the states that border them.

Estimate the width of the land area west of the Rocky Mountains. A large part of this space is occupied by a plateau, having the *Rocky Mountains* on the east and the *Sierra Nevada* and *Cascade Mountains* on the west (Fig. 366). Point out these mountains on Figure 363. What river is in the northern part of this plateau? In its southern part? What lake is there in its middle portion? Find the *Great Basin* (Fig. 366). What about the rivers of this basin? (Fig. 363).

West of the Sierra Nevada-Cascade system are narrow lowlands including the fertile valley of California and that occupied by Puget Sound in Washington (Fig. 363). Still west of these valleys, and rising abruptly from the sea, is a third system of mountains called the *Coast Ranges.* Make a cross-section drawing of the United States, showing the greater elevations of land.

Some of the loftiest peaks in the Far West are not due to the folding of the earth's crust, but to *volcanic action.* Mt. Shasta in northern California is an example. Can you name others? The soil in hundreds of thousands of square miles has been formed by the decay of volcanic rock: and much of the scen-

ery of the Far West, including the hot springs and geysers of the *Yellowstone National Park*, bears evidence to the former existence of volcanoes. What can you tell about *geysers ?*

Climate. — The factors determining the *temperature* of any country were enumerated on page 41. What are they? How must the temperature of the Central Plains differ from

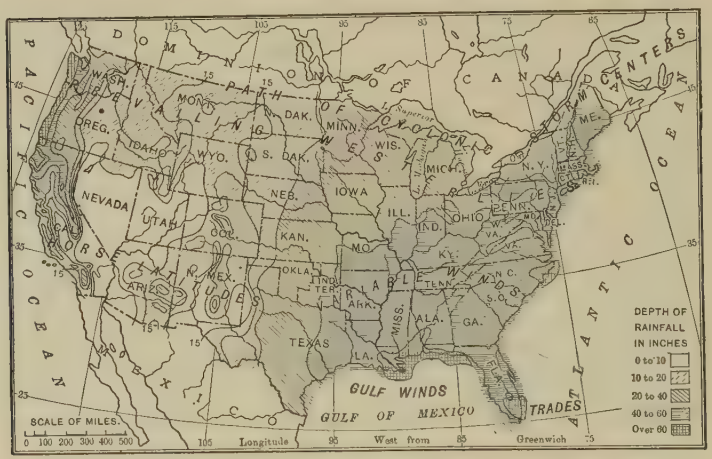


FIG. 367.

A map to show the rainfall of the United States in inches.

that of the Rocky Mountains, as a result of the influence of altitude? How must the temperature of the coast differ from that of the interior? Why?

A general statement of the great *wind belts* which influence North America is given on pages 26–28, and they are shown graphically in Figure 25. Name these belts. Figures 38 and 39, together with the accompanying text, explain the *ocean currents* that approach our shores. Describe them. The effects of these winds and ocean

currents upon our western coast and interior are stated on pages 160 and 161 (see also Fig. 29). The nature and influence of *cyclonic storms* are discussed on pages 38 and 39. Recalling these various facts, explain the isotherms for North America in Figures 36 and 37. Figure 367 shows

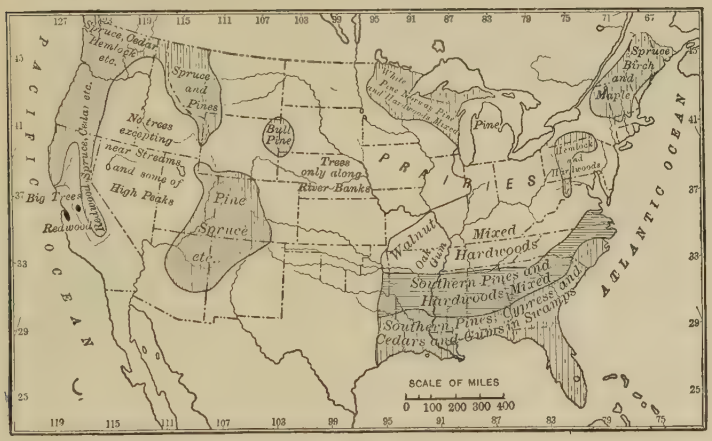


FIG. 368.

Map showing the regions from which much timber is now being obtained.

the *rainfall* for the United States. Give the reasons for the differences in rainfall.

INDUSTRIES

Lumbering. — Figure 368 shows the main parts of the United States in which lumbering is now carried on. Name the sections; also the kinds of trees and some of the principal animals (see also p. 68). Why do the largest trees grow on the western coast? (p. 468). Besides lumber, *tannic acid* for tanning leather is obtained from these forests; also *turpentine;* and *wood pulp* for the manu-

facture of paper. How is *maple sugar* obtained? Recall some of the facts about lumbering in different sections.

Most of the cities of Maine are engaged in handling lumber. BANGOR is the most important port for its shipment; PORTLAND has lumber mills, etc.; and BATH is noted for its shipbuilding. There is also manufacturing of doors, blinds, and other articles of wood in many New England cities, as BURLINGTON, Vt. Paper mills are found along the rivers of Maine, New York, Pennsylvania, Wisconsin, Minnesota, and other states. HOLYOKE, Mass., is a centre for making paper from rags.

FIG. 369.
Sections where ocean fish are found.

In the South, Georgia pine is shipped from CHARLESTON, SAVANNAH, JACKSONVILLE, MOBILE, and smaller ports. MEMPHIS is a centre for hard wood; and the manufacture of doors, blinds, furniture, etc., is extensively carried on in ATLANTA, MONTGOMERY, MOBILE, CHATTANOOGA, NASHVILLE, LITTLE ROCK, and many smaller places.

The lumber business is also important in many of the

Central States. The water power at MINNEAPOLIS has long been used for sawmills; and the excellent position of DULUTH and SUPERIOR for shipping lumber by lake, has given rise to an important lumber industry at these points also. Many cities within easy reach of the northern forests are engaged in the manufacture of furniture and other articles of wood. This is true, for example, of CHICAGO, of LA CROSSE and OSHKOSH, WIS., and of SAGINAW, BAY CITY, and GRAND RAPIDS, Mich.

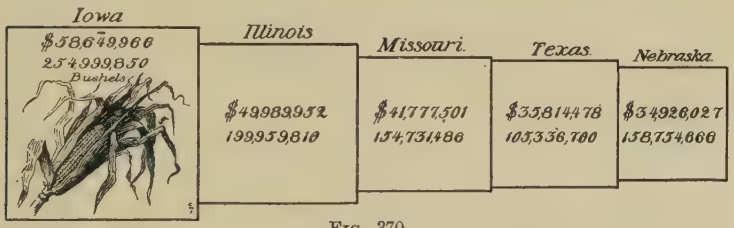


FIG. 370.

Corn production, in dollars and in bushels, in the five leading corn-producing states.

TACOMA and SEATTLE owe much of their importance to their great sawmills and planing mills; and PORTLAND, Oregon, also has extensive lumber industries. Locate these various places on the maps (Figs. 359–363).

Fishing. — Figure 369 represents the products obtained by fishing on our eastern coast. Make a list of the different kinds and state the general distribution of each. GLOUCESTER, BOSTON, and PORTLAND are important in this industry, and BALTIMORE and NORFOLK are centres for the oyster trade. Immense numbers of salmon are canned along the Columbia River near PORTLAND, Oregon, and in western Canada and Alaska.

Agriculture and Related Manufacturing. — Among agricultural products by far the most valuable is *corn*. Figure

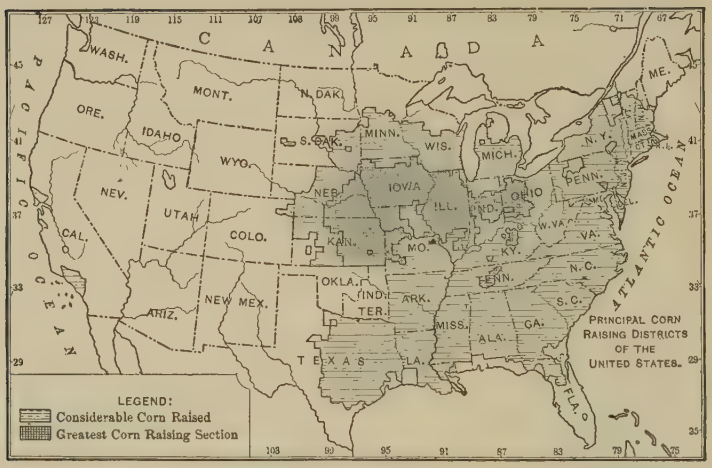


FIG. 371.

On these maps the spaces left blank indicate either little or no production.

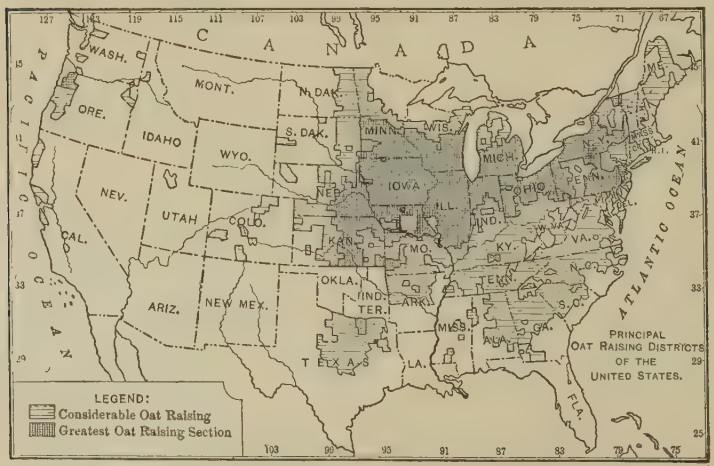


FIG. 372.

371 represents the corn districts. Note that the Southern States produce a large amount. Why is there so little in

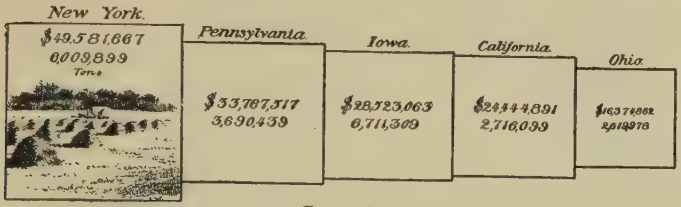


FIG. 373.

Hay production, in dollars and tons, in the five principal hay-producing states.

the Far West? What is the rank of the five leading states in this cereal? (Fig. 370). Enumerate the uses to which

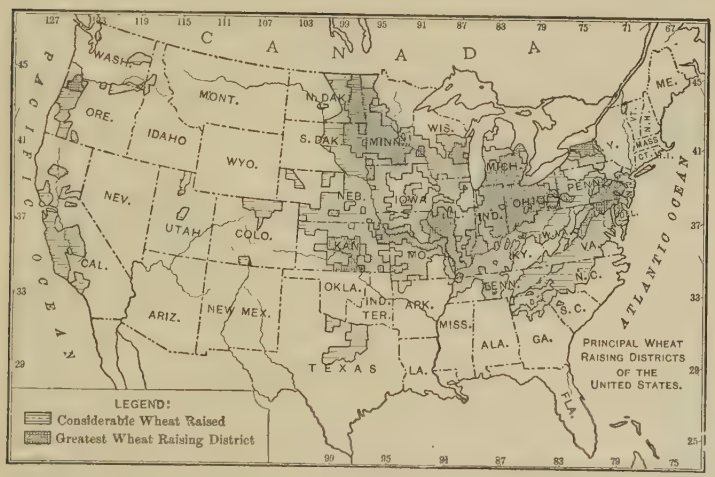


FIG. 374.

corn is put. How does the area for *oats* (Fig. 372) compare with that for corn? Note the leading states for *hay* (Fig. 373). Does Figure 374 show *wheat* to be more, or

less widely distributed than corn? Why should it be? Which of the Western States must rely upon irrigation

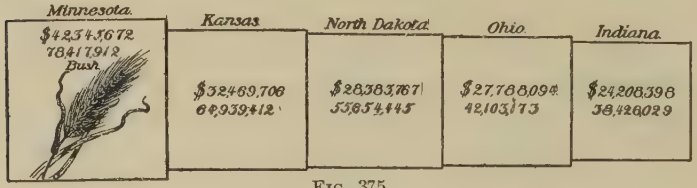


FIG. 375.

Wheat production, in dollars and bushels, in the five leading wheat-producing states.

for raising wheat? Name the five leading wheat states in the order of their rank (Fig. 375). How does the value

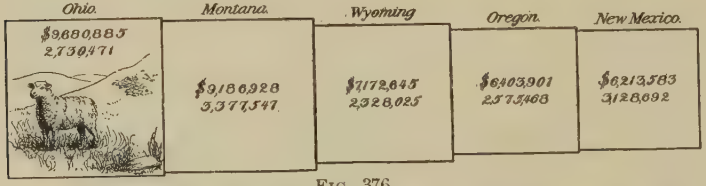


FIG. 376.

Number of sheep and their value in the five leading sheep-producing states.

of hay in the five states that lead in its production compare with that of wheat in the five principal wheat states?

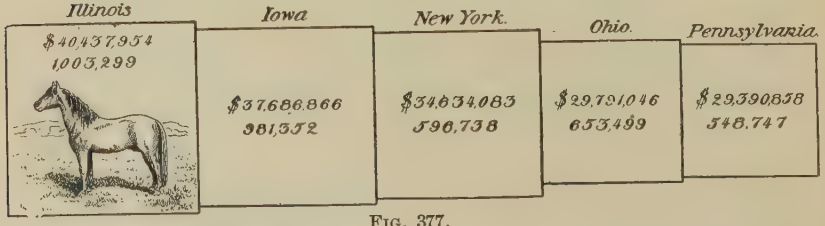


FIG. 377.

Number of horses and their value in the five principal horse-producing states.

Excepting in the northwest, — that is, north of central California near the Pacific coast, — most of the country west of the 100th meridian is too arid for agriculture without irrigation. This, therefore, is our great *grazing* region.

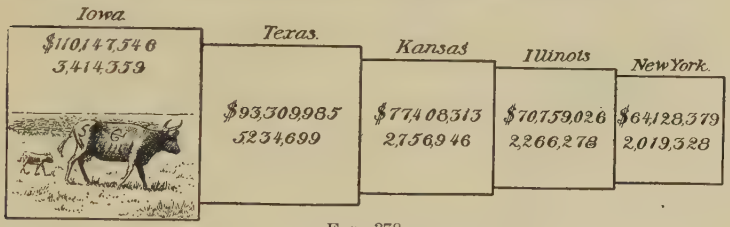


FIG. 378.
Number of cattle and their value in the five principal cattle-producing states.

Which of our states produce most *sheep?* (Fig. 376). Which eastern state surpasses all others in number of sheep? Large numbers of *horses* are raised in the ranch country; but Figure 377 shows that the five leading

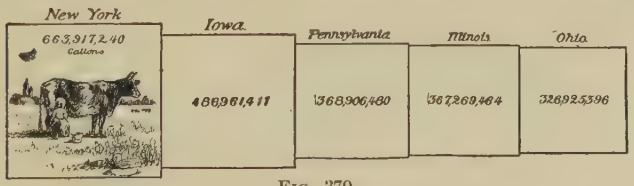


FIG. 379.
Five principal milk-producing states.

states in the production of horses are farther east. Do Figures 372 and 373 suggest a reason for this? Name the five leading states for *cattle* (Fig. 378). No one of these states is altogether in the ranch country, although the second and third are semi-arid in their western part. Note the principal *milk*-producing states (Fig. 379). To what extent are these states the same as those in Figure 373? What resemblance do you find between the five

states producing most corn (Fig. 370) and the five producing the largest number of *hogs?* (Fig. 380). Why?

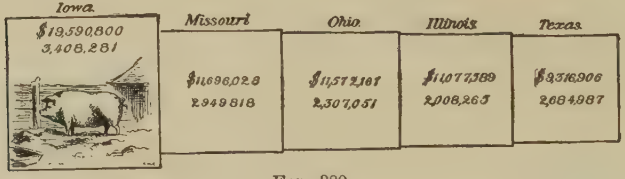


FIG. 380.

Number of hogs and their value in the five principal hog-producing states.

These various agricultural products are of immense importance in the great shipping and manufacturing centres. Name the five chief *shipping points* along the Great Lakes (Fig. 358). Make a list of the five largest cities on the Mississippi River and its tributaries; the five largest on the eastern coast; the three largest on the western coast. Arrange these in the order of their population (see table, p. 552). Which are included among the twelve largest cities in the country? (see table, p. 551).

OMAHA, KANSAS CITY, ST. LOUIS, and CHICAGO are noted markets for *live stock* and *grain*. Why these in particular? Besides sending these products eastward, they pack a great amount of *meat* and mill much *flour*. In the southwest the shipping points for western cattle are DALLAS and FORT WORTH in Texas.

MINNEAPOLIS, MILWAUKEE, TOLEDO, EVANSVILLE, and NASHVILLE are noted for *flour*. Both *brewing* and *distilling*, which require grain, are important industries in a number of the cities of the Central States, the former especially at MILWAUKEE, ST. LOUIS, and CINCINNATI, the latter at LOUISVILLE and PEORIA.

Nearly all the cities in the fertile Central States are

engaged in industries connected with the products of the region. For example, COLUMBUS and INDIANAPOLIS handle grain and manufacture *farming implements;* and DAYTON is noted for its manufacture of farm machinery. These and other cities of this section are *trade centres*, supplying the towns, villages, and farms with needed implements and other articles. Notice, for example, the number of large towns along the Mississippi and Missouri rivers and their larger tributaries. Besides those already mentioned some of the largest are ST. PAUL, ST. JOSEPH, and DES MOINES. Find others.

Many of the products of the Central States are sent east for consumption or for manufacture. For example, hides are shipped to tanneries in the central and eastern states; and the leather then goes to the factories at LYNN and BROCKTON, Mass., ROCHESTER, N.Y., and elsewhere, to be made into *boots* and *shoes*. Leather goods are also made in the cities of the middle west, as, for example, in ST. LOUIS.

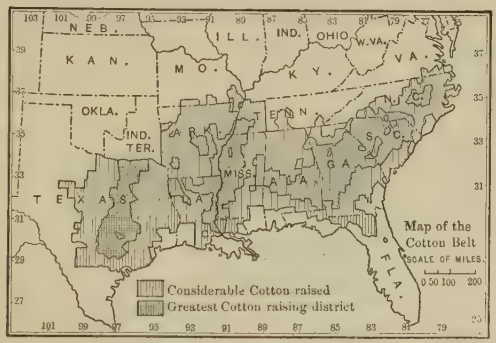


FIG. 381.

Observe the extent of the *cotton* belt (Fig. 381) and the rank of the principal cotton-producing states (Fig. 382). NEW ORLEANS, MEMPHIS, ATLANTA, and numerous other southern cities are important cotton markets. What seaports must ship a large amount of cotton? Of late *cotton*

manufacturing has been rapidly increasing in the South; and among the cities which are extensively engaged in manufacturing cotton goods and cotton-seed oil are

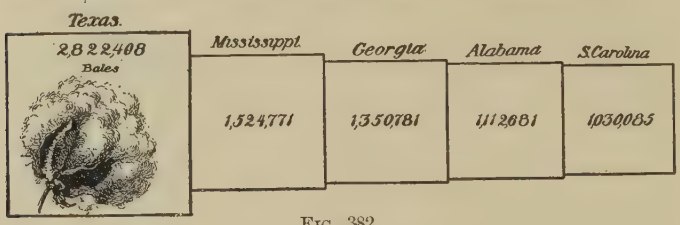


FIG. 382.

Five principal cotton-producing states.

COLUMBIA and GREENVILLE, S.C., CHARLOTTE, N.C., and AUGUSTA, COLUMBUS, and ATLANTA, Ga. Texas manufactures little, although nearly every Texan city is important for cotton. Name and locate several of the largest.

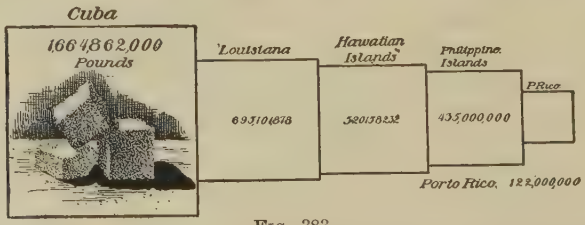


FIG. 383.

Principal sugar-producing districts in the United States and its dependencies; also including Cuba.

Of the southern cotton much is sent to New England, which is even more busily engaged in *cotton manufacturing* than the South. Many of the cities of southern Maine and New Hampshire, as well as many in Massachusetts, Rhode Island, New York, and other states, are engaged in the manufacture of cotton or woollen goods or both.

Among these are PHILADELPHIA Pa., FALL RIVER, LOWELL, LAWRENCE, NEW BEDFORD, and TAUNTON, Mass.; PROVIDENCE and PAWTUCKET, R. I.; MANCHESTER, N.H.; LEWISTON, Me.; and UTICA, N.Y.

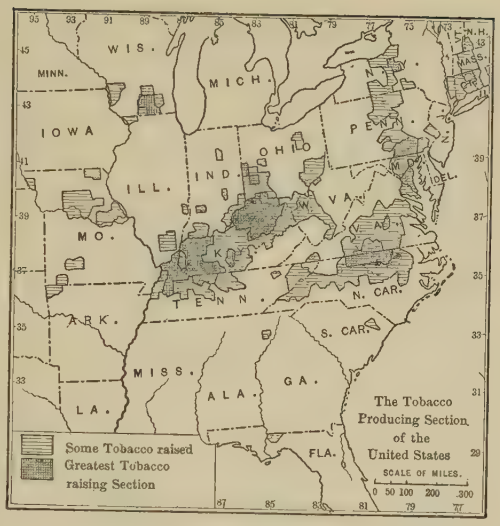


FIG. 384.

Note the rank of Louisiana in the production of *sugar* and sugar cane (Fig. 383). Naturally there are many sugar refineries in NEW ORLEANS. In what section is *rice* cultivated? (Fig. 432). Name the chief *tobacco* states (Fig. 384). RICHMOND, LOUISVILLE, and ST. LOUIS are our principal tobacco markets, while Lynchburg and Danville, Va., and Raleigh and Durham, N.C., are extensively engaged in tobacco manufacture.

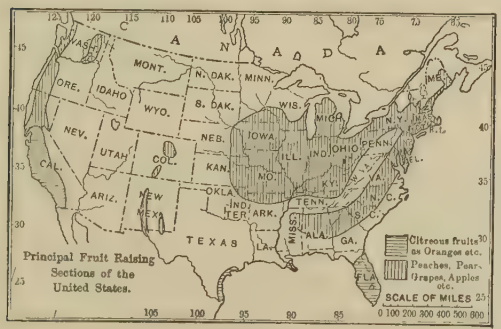


FIG. 385.

What are our chief kinds of *fruits*, and in what sections are they raised? (Fig. 385). Much of the prosperity of Los Angeles, Cal., is dependent upon the fruit raised in its vicinity by the aid of irrigation. To the use of irrigation is also due the fruit and other agricultural industries near Salt Lake City, Utah. Near the shores of the Great Lakes immense quantities of grapes, apples, pears, and other fruits are raised. Why near the Great Lakes? Rochester, N.Y., is a noted

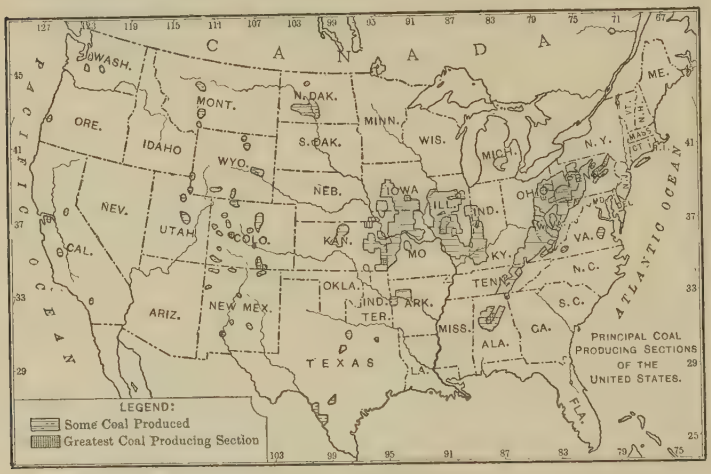


Fig. 386.

centre for the *nursery business*, which is important in the fruit country. *Canning* is another great industry connected with fruit, as, for example, at Baltimore and Wilmington. Why there?

Mining and Manufacturing Dependent upon Mining. — *Coal* and *iron* are the most important minerals for manufacturing. Tell about their distribution (Figs. 386 and 389). What is the rank of the leading states in each product? (Figs. 387 and 388). In regard to coal in Penn-

sylvania, see page 183. The neighboring states of Maryland, West Virginia, and Ohio have extensive deposits of bituminous coal. What about the coal in the states farther west? (Fig. 386).

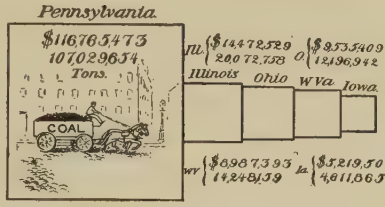


FIG. 387.

Coal production, in dollars and tons, in the five leading coal-producing states.

Owing to special advantages mentioned on pages 183–184, Pennsylvania is distinguished for the manufacture of *iron and steel goods.* PHILADELPHIA manufactures cars, steel ships, and many other articles of iron. PITTSBURG and ALLEGHENY make iron and steel goods of nearly every description; and in SCRANTON, READING, HARRISBURG, ERIE, and a score of other cities there are furnaces, foundries, and machine shops for iron manufacturing.

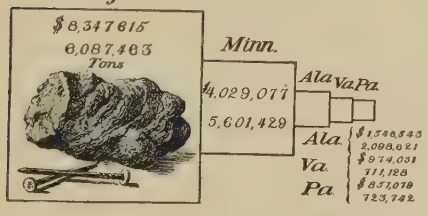


FIG. 388.

Iron ore production, in dollars and tons, in the five leading iron ore-producing states.

Neighboring states also enjoy the benefit of the abundant coal of this region. In New Jersey, NEWARK, JERSEY CITY, CAMDEN, and HOBOKEN manufacture iron goods. NEW YORK CITY does the same, and there is iron manufacturing at BUFFALO, ROCHESTER, SYRACUSE, ALBANY, TROY, and many other New York cities. WILMINGTON, Del., like Philadelphia, is noted for its cars and steel ships; and BALTIMORE, WHEELING, W. Va., and ROANOKE, Va., carry on iron and

steel manufacturing. What is the rank of Virginia among iron-producing states? (Fig. 388).

For reasons stated on page 184, the iron ore of the Lake Superior region is transported to distant cities, even as far as the cities of Pennsylvania, for manufacture. Boats with ore leave the lake ports of DULUTH, SUPERIOR, ASHLAND, and MARQUETTE for cities all along the Great Lakes,

FIG. 389.

Leading iron, copper, oil, and gas producing regions.

especially those which can easily secure coal. Some of these cities draw upon the Pennsylvania coal fields; others obtain coal from Ohio, Indiana, and Illinois. Among the lake cities which receive Lake Superior iron are CHICAGO, CLEVELAND, BUFFALO, DETROIT, MILWAUKEE, and TOLEDO. But many others, both on the lakes and at a distance from them, are partly or wholly supplied with iron for manufacture from the Lake Superior region, the most productive iron field in the world.

New England also consumes much iron, manufacturing especially such articles as are light and require much skill. Why? Many of the smaller places are engaged in such work, and among the larger cities BOSTON, WORCESTER, SPRINGFIELD, HARTFORD, NEW HAVEN, and BRIDGEPORT make many kinds of articles of metal, including wire, machinery, hardware, firearms, cartridges, bicycles, sewing machines, etc.

In Alabama, as in Pennsylvania, both coal and iron are found; and at BIRMINGHAM, which has both minerals near at hand, the iron and steel industry is extensive (p. 184). ATLANTA, KNOXVILLE, and CHATTANOOGA also have iron industries. We have already seen that many cities in the Central States are engaged in iron manufacturing, since they make farming implements; and many other forms of iron goods receive their attention. In the Far West there is less manufacturing; but PUEBLO, Colo., has large iron works.

In some sections *natural gas* is used as a fuel in place of coal; for example, in the neighborhood of PITTSBURG in the manufacture of glass. On Figure 389, point out the leading oil and gas districts. Name other products than kerosene that are obtained from petroleum.

What states produce *copper?* (Fig. 389). Michigan, in the neighborhood of Calumet, has very large copper mines; and at BUTTE, Mont., more copper is mined than in any other district in the world. Name the cities in southern Arizona (Fig. 362) near the copper-producing region (Fig. 389).

Lead and *zinc* are other important metals. Many of the silver ores of the Far West yield lead, as, for example, at LEADVILLE, Colo. Both lead and zinc are found in several of

the Central States, one of the leading districts being at JOPLIN, Mo. Much zinc is used for mixing with copper to form the alloy *brass*. WATERBURY, Conn., is an important centre for the manufacture of brass goods.

How widely distributed are the *gold* and *silver* mines? (Fig. 390). Name the principal states for each metal in the order of their rank (Figs. 391 and 392). DENVER

FIG. 390.
Gold and silver producing regions indicated by crosses.

owes much of its importance to the numerous mining towns in its vicinity. Why? One of the best known is CRIPPLE CREEK; LEADVILLE is another. Some of this metal is sent to eastern cities, such as PROVIDENCE, to be used in the manufacture of jewellery, etc.; but large quantities go to the government mints to be coined for use as money.

Compare the value of the precious metals (Figs. 391 and 392) with that of hay (Fig 373). With that of cattle

(Fig. 378). Which of the products shown in these various diagrams has the greatest total value?

Besides the mineral products mentioned, there are others of great importance. For example, *salt* is found in New York, Michi-

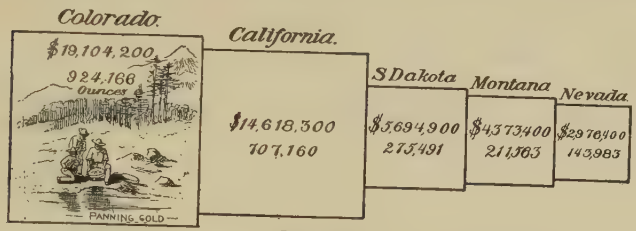


FIG. 391.

Gold production, in dollars and ounces, in the five leading gold-producing states.

gan, Kansas, and other states. *Phosphates* are obtained at CHARLESTON, S.C., and in Florida. *Clays* for bricks and tiles occur in many sections, one of the most noted being the Hudson Valley above New York; but the finer pottery clays are

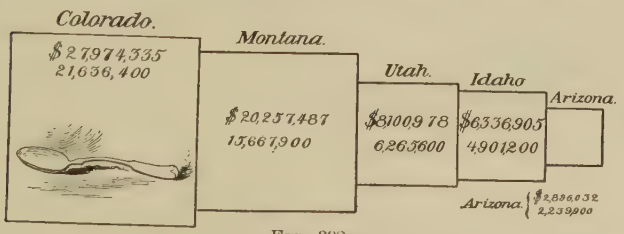


FIG. 392.

Silver production, in dollars and ounces, in the five leading silver-producing states.

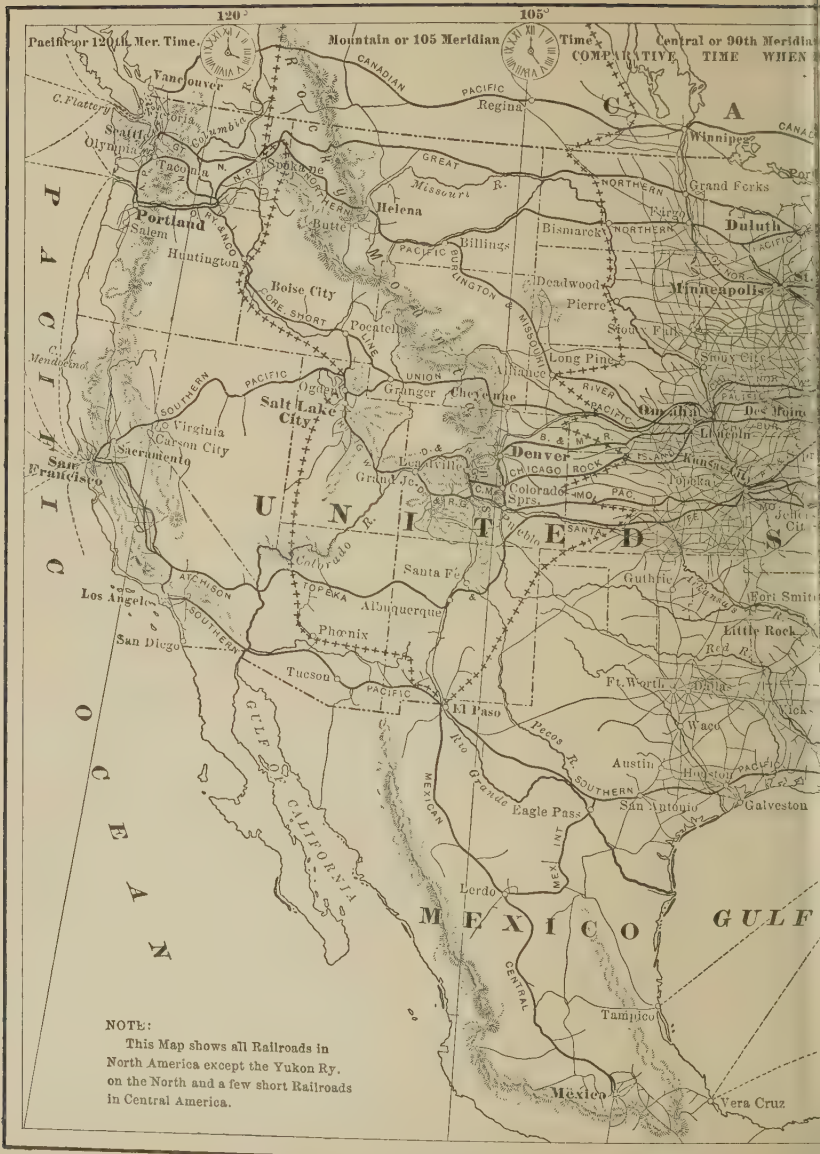
less common, one of the most important centres being TRENTON, N.J. Building stones of one kind or another are quarried in every state; but Ohio, Indiana, and other Central States produce *sandstone* and *limestone* especially; the New England States *granite;* the neighborhood of RUTLAND, Vt., *marble;* and Vermont, New York, Pennsylvania, and Maine *slate.*

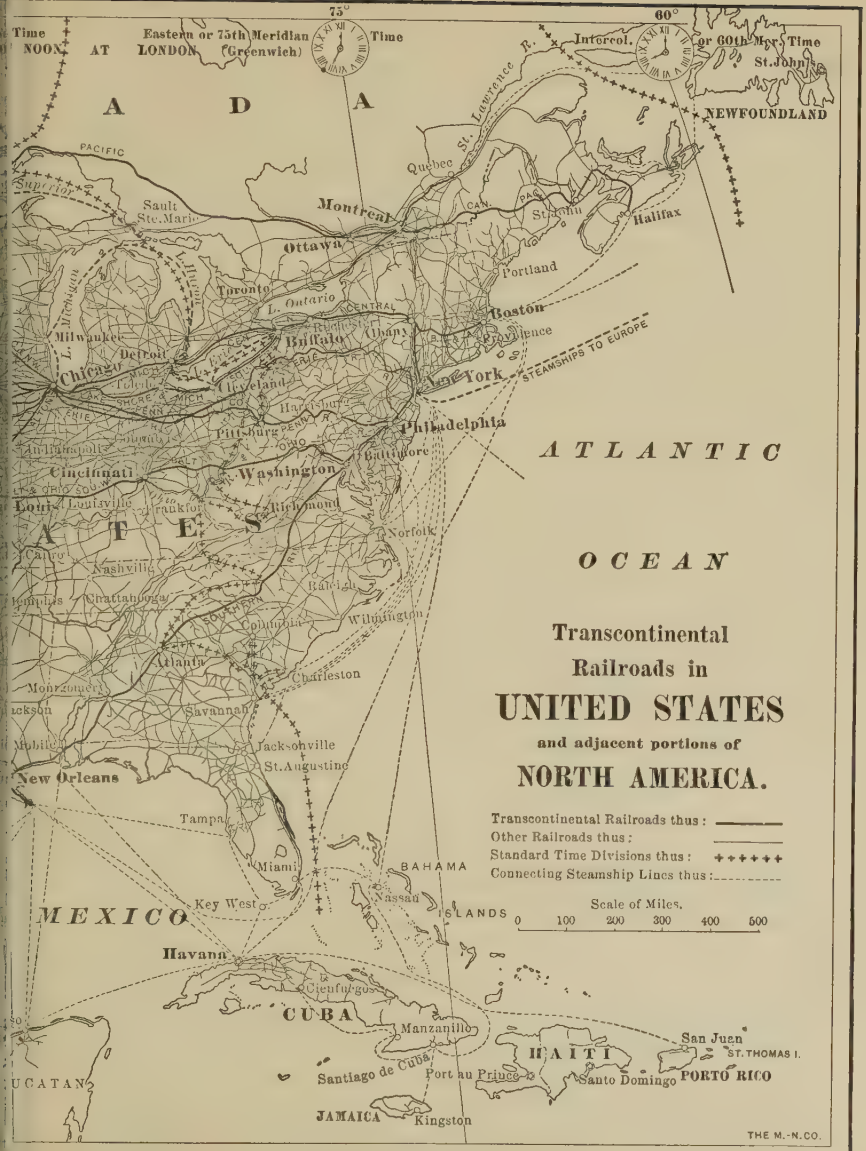
Manufacturing. — The great industries supplying raw products are seen to be *lumbering*, *fishing*, *agriculture*, *grazing*, and *mining*, of which agriculture is the most important. *Manufacturing*, a sixth great industry, is seen to be directly related to these products. Our cities are largely engaged in manufacturing, and have so many

FIG. 393.

The star shows the centre of population of the United States.

kinds that a mere list of them would occupy many pages. A number of the cities are noted especially for one kind of manufacture, as PATERSON, N.J., for silk; TROY, N.Y., for shirts, collars, and cuffs; SYRACUSE, N.Y., for the works in which soda is made from salt; BROCKTON, Mass., for shoes; FALL RIVER, Mass., for cotton goods, etc. But some of these cities have other important manufactures; and the larger commercial cities make scores of very different classes of articles. For example, BOSTON


120°
105°
Pacific or 120th Mer. Time.
Mountain or 105 Meridian Time
Central or 90th Meridian
COMPARATIVE TIME WHEN
Vancouver
C. Flattery
Victoria
Seattle
Olympia
Tacoma
Spokane
Portland
Salem
Huntington
Boise City
Pocatello
Butte
Helena
Billings
Bismarck
Grand Forks
Duluth
Minneapolis
Winnipeg
Regina
Deadwood
Pierre
Sioux Falls
Sioux City
Omaha
Des Moines
Lincoln
Kansas City
Topeka
Denver
Colorado Spgs.
Pueblo
Cheyenne
Ogden
Salt Lake City
Grand Jc.
Grand R.
Virginia City
Carson City
Sacramento
San Francisco
Los Angeles
San Diego
Santa Fe
Albuquerque
Phoenix
Tucson
El Paso
Guthrie
Fort Smith
Little Rock
Ft. Worth
Dallas
Waco
Austin
Houston
Galveston
San Antonio
Eagle Pass
Rio Grande
Pecos R.
Lerdo
Tampico
Mexico
Vera Cruz
Colorado R.
Missouri R.
Red R.
PACIFIC OCEAN
GULF OF CALIFORNIA
MEXICO
GULF
UNITED STATES
CANADA
CANADIAN PACIFIC
GREAT NORTHERN
NORTHERN PACIFIC
SOUTHERN PACIFIC
UNION PACIFIC
CHICAGO, ROCK ISLAND & PACIFIC
ATCHISON, TOPEKA & SANTA FE
SOUTHERN
MEXICAN INTERNATIONAL
MEXICAN CENTRAL
NOTE:
This Map shows all Railroads in North America except the Yukon Ry. on the North and a few short Railroads in Central America.


Time NOON AT LONDON
Eastern or 75th Meridian (Greenwich) Time
75°
60°
Intercol. R.
or 60th Mer. Time
St. John's
NEWFOUNDLAND
A D A
PACIFIC
St. Lawrence R.
Quebec
Montreal
Sault Ste. Marie
Ottawa
Halifax
Portland
Toronto
L. Ontario
Boston
Milwaukee
Detroit
Buffalo
Chicago
Cleveland
New York
STEAMSHIPS TO EUROPE
Philadelphia
Pittsburg
Baltimore
Cincinnati
Washington
Louisville
Richmond
Norfolk
Nashville
Raleigh
Memphis
Chattanooga
Wilmington
Atlanta
Charleston
Savannah
Jacksonville
St. Augustine
New Orleans
Tampa
Miami
BAHAMA ISLANDS
Nassau
Key West
MEXICO
Havana
Cienfuegos
CUBA
Manzanillo
Santiago de Cuba
HAITI
Port au Prince
San Juan
ST. THOMAS I.
Santo Domingo
PORTO RICO
JAMAICA
Kingston
ATLANTIC OCEAN
Transcontinental Railroads in
UNITED STATES
and adjacent portions of
NORTH AMERICA.
Transcontinental Railroads thus:
Other Railroads thus:
Standard Time Divisions thus:
Connecting Steamship Lines thus:
Scale of Miles.
0 100 200 300 400 500
THE M.-N.CO.

and its suburbs, which include the large cities of CAMBRIDGE and SOMERVILLE, manufacture almost every kind of article that can be named.

Commerce. — In connection with the production of raw materials and with manufacturing there must be much trade and transportation of goods, or *commerce*. More than half of our people are occupied in providing raw products and hence live in country districts, while the cities are mainly concerned with manufacturing and commerce. Give several examples showing the interdependence of country and city districts. According to Figure 393, in what quarter of the United States are most of our cities found? Our railways? (Fig. 394).

In the table (p. 551) you will find a list of the twenty-five largest cities. Locate each and tell what you know about it. Which of these cities is nearest your home? In what section of the country is the greatest number? Why? Which are on the sea-shore? Which are on the Great Lakes? Which are on navigable rivers? (Fig. 396). Which are not on navigable waters?

Name and locate our great cities along the Atlantic seaboard. They are not only manufacturing centres, but also eastern gateways to and from the interior, as SEATTLE, TACOMA, PORTLAND, and SAN FRANCISCO are gateways on the western side.

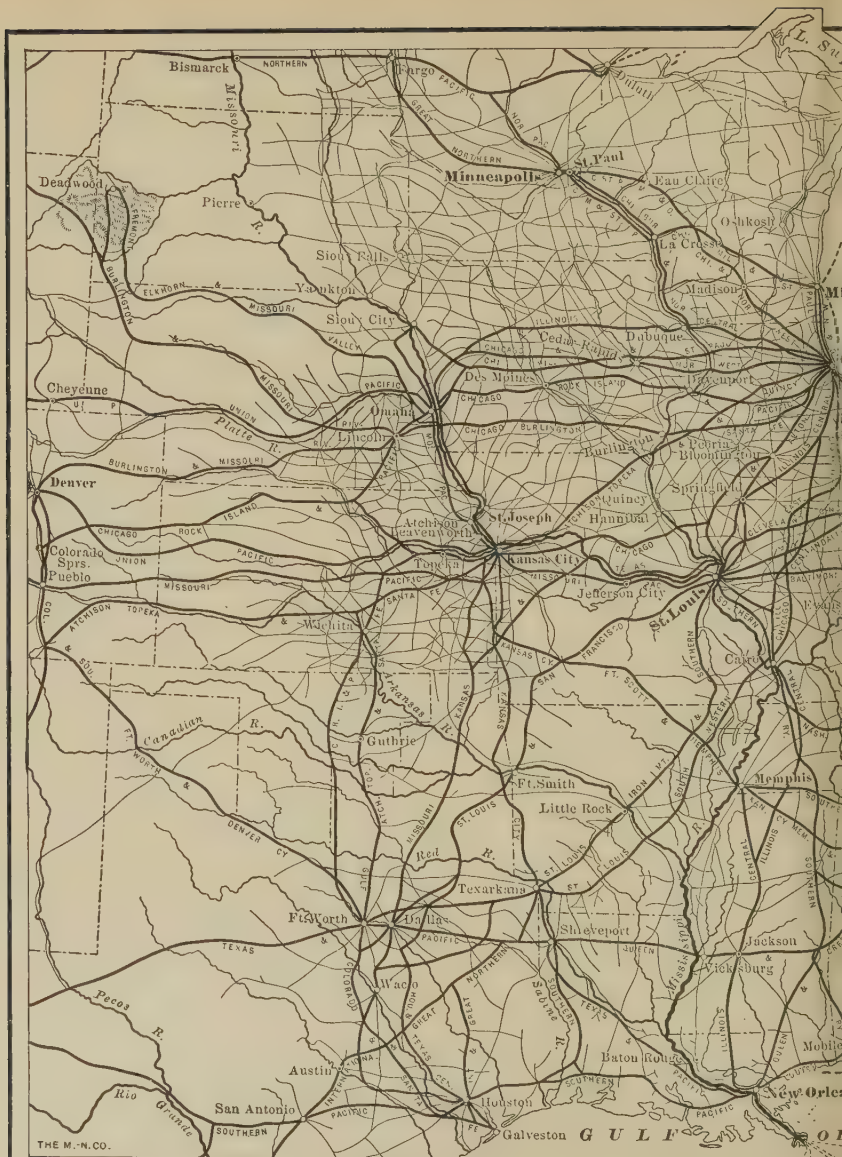
Some of the reasons why New York is the largest city of all are stated on page 123. What are they? Trace the route of the New York Central Railway (Fig. 395) and the Erie Canal to Lake Erie (Fig. 360). Name the principal cities on this route. There are other railways from New York to BUFFALO (Fig. 395), and these connect with lines that extend to Chicago and the West. The importance of Buffalo as a shipping point is further increased by the fact that Niagara Falls have made it the

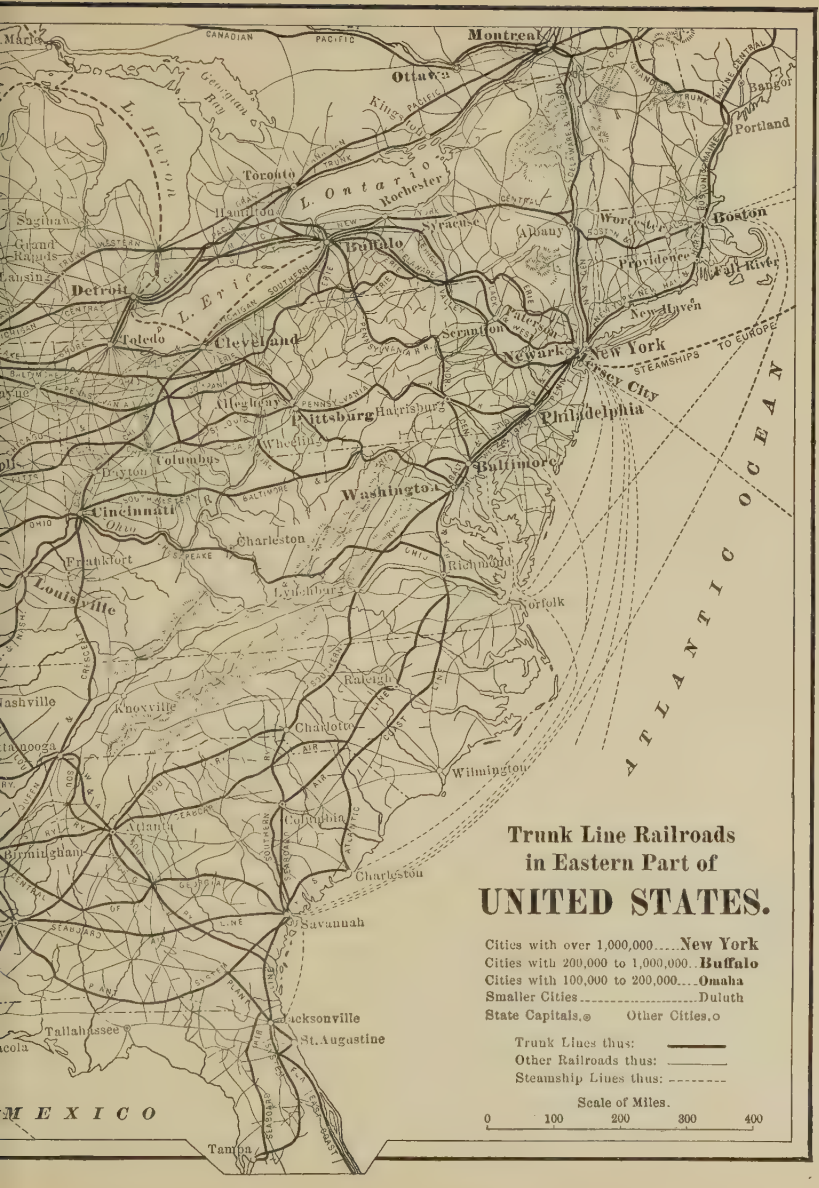
eastern terminus of much of the lake traffic. Since the Welland Ship Canal (Fig. 360) now permits lake boats to pass from the Great Lakes down the St. Lawrence, why does not Montreal rival New York in importance? Boston has excellent railway connections with Albany and the West, but it is much smaller than New York. Why?

Name the chief cities along the Great Lakes between Buffalo and Duluth. Considering the raw materials at hand, what shipping and manufacturing industries must be prominent in these cities? Taking Cleveland, for example, state clearly the advantages of its location for securing raw products needed in manufacturing, and for shipping manufactured articles. In what respects are Detroit, Chicago, and Milwaukee favorably located?

In Figure 394 note that from Duluth, Minneapolis, and St. Paul two trunk lines of railway, the Great Northern and the Northern Pacific, extend to the Pacific coast. In what cities do they terminate? What states do they cross; and what cities have you studied that are situated on or near them?

Philadelphia and Baltimore, like Boston and New York, also have excellent connection with the West, by lines running through Pittsburg, Columbus, Indianapolis, and Cincinnati to Chicago and St. Louis (Fig. 395). From the two last cities two other trunk lines, — the Atchison, Topeka, and Santa Fé, and the Union Pacific, which connects with the Southern Pacific and the Oregon Short Line, — have been built to the Pacific coast (Fig. 394). Through what states and large cities do they pass? Note the number of trunk lines extending to Denver and other Colorado cities; several of these connect


Bismarck
Fargo
Duluth
Minneapolis
St. Paul
Eau Claire
Deadwood
Pierre
Oshkosh
La Crosse
Sioux Falls
Yankton
Madison
Sioux City
Cedar Rapids
Dubuque
Cheyenne
Des Moines
Davenport
Omaha
Lincoln
Peoria
Bloomington
Denver
Quincy
Springfield
St. Joseph
Hannibal
Atchison
Leavenworth
Colorado Sprs.
Pueblo
Topeka
Kansas City
Jefferson City
St. Louis
Wichita
Carro
Arkansas R.
Canadian R.
Guthrie
Ft. Smith
Memphis
Little Rock
Red R.
Texarkana
Ft. Worth
Dallas
Shreveport
Jackson
Vicksburg
Waco
Pecos R.
Austin
Baton Rouge
Rio Grande
San Antonio
Houston
Galveston
GULF
THE M.-N.CO.


Trunk Line Railroads
in Eastern Part of
UNITED STATES.
Cities with over 1,000,000.....New York
Cities with 200,000 to 1,000,000..Buffalo
Cities with 100,000 to 200,000....Omaha
Smaller Cities.....Duluth
State Capitals,⊙ Other Cities,○
Trunk Lines thus:
Other Railroads thus:
Steamship Lines thus:
Scale of Miles.
0 100 200 300 400
ATLANTIC OCEAN
MEXICO
Montreal
Ottawa
Toronto
Hamilton
Rochester
Buffalo
Syracuse
Albany
Boston
Worcester
Providence
Fall River
New Haven
New York
Newark
Jersey City
Philadelphia
Baltimore
Washington
Pittsburg
Harrisburg
Scranton
Cleveland
Detroit
Toledo
Columbus
Dayton
Cincinnati
Charleston
Frankfort
Louisville
Lynchburg
Richmond
Norfolk
Raleigh
Knoxville
Charlotte
Wilmington
Columbia
Atlanta
Charleston
Savannah
Jacksonville
St. Augustine
Tallahassee
Tampa
Portland
Bangor
L. Huron
L. Erie
L. Ontario
TO EUROPE
STEAMSHIPS

with the Denver and Rio Grande, which also has connections to the Pacific.

The principal railways running south from New York, Philadelphia, and Baltimore necessarily extend parallel to the Appalachians (Fig. 395). But several of them wind about the southern end of these ranges to the west and

FIG. 396.
Navigable rivers represented by heavy lines.

northwest, making the "Gate City," ATLANTA, an important railway centre. CHATTANOOGA and NASHVILLE are other important railway centres in the South. Notice (Fig. 395) that CHICAGO, ST. LOUIS, CINCINNATI, LOUISVILLE, and other large cities in the interior are connected by trunk lines with New Orleans and other southern cities. At New Orleans the southern roads connect with another transcontinental line, the Southern Pacific, which extends from New Orleans to LOS ANGELES, SAN FRANCISCO, and

PORTLAND. Name the states and chief towns along that route. Find OAKLAND (Fig. 363) which is the terminus of railways leading to San Francisco, much as JERSEY CITY and HOBOKEN are of railways leading to New York.

FIG. 397.

It is evident that the main railways of the United States extend east and west. On the other hand, Figure 396 shows that the principal navigable rivers flow southward. Name them. Why should not our principal railways likewise run north and south?

Government. — All together there are forty-five states in our Union, besides four territories (Arizona, Indian Territory, New Mexico, and Oklahama), the District of Columbia, and several outlying territories and dependencies. These are all firmly united under a free, popular government, or Republic, with the capital at WASHINGTON in the District of Columbia. This city, unlike our other large

cities, is almost entirely occupied with the affairs of government, instead of with manufacturing and commerce.

Outlying Territories and Dependencies of the United States

Alaska. — Alaska was purchased from Russia in 1867. Give its latitude. Describe the surface (Fig. 356). How must the Japan Current (p. 46) and the prevailing westerlies (Fig. 30) affect its climate? In the shallow waters near the coast, cod and halibut abound, and salmon are caught in the rivers. Seals, valuable for their fur, are captured on the Pribilof Islands. Locate these islands (Fig. 357); also the Aleutian Islands (Fig. 241). Recently gold mining has become important at various places, especially in the Klondike region of Canada on the upper Yukon (Fig. 398). There are very large gold mines at Juneau near Sitka, the capital.

Cuba and Porto Rico. — As a result of the war of 1898, Porto Rico was ceded by Spain to the United States, and Cuba was given its independence under the general guidance of the United States. Since these islands have a mountainous surface, and are in the trade-wind belt, how must their rainfall be distributed? (p. 33). While there are valuable forests, farming is the chief industry. Sugar (Fig. 383) and tobacco are the leading crops, and coffee (Fig. 425), cocoa, tea, and tropical fruits are other products. By far the largest city is Havana, the capital of Cuba (Fig. 400); San Juan is the capital and largest city of Porto Rico (Fig. 400).

Hawaiian Islands. — Locate these islands (Fig. 338), which are volcanic in origin. What can you tell about

their climate? Sugar is their principal crop (Fig. 383), and coffee, rice, and tropical fruits are other products. The Pacific coast cities are their chief markets, and SAN FRANCISCO refines much of their sugar. Name the chief city (Fig. 338). The islands constitute a territory of the United States similar to Alaska.

Guam and Samoa. — These islands (Fig. 338) are of value to us mainly as coaling stations. What does that mean? Only Tutuila among the Samoan Islands (p. 484) belongs to us.

Philippine Islands. — In what latitude do these islands lie? (Figs. 241 and 338). They form a portion of the great girdle of mountain chains and volcanoes shown in Figure 5. The winter season is dry, but the summer monsoon (p. 36) brings heavy rains. What must the temperature be? The extensive forests and mineral deposits are little utilized, but hemp, tobacco, sugar, coffee, and cocoa are raised for export.

COUNTRIES NORTH OF THE UNITED STATES

Canada and Newfoundland. — The Dominion of Canada was formed in 1867. It now consists of seven provinces. Name the seven provinces and the sparsely settled territories (Fig. 398). Canada is a dependency of Great Britain, and has a popular government of its own, with OTTAWA as the capital. Newfoundland never joined this union, and hence forms a separate British colony.

Southern Canada is very similar to northern United States in physiography, climate, and products. Farther north there is a forest belt inhabited mainly by Indians and trappers; and beyond that are extensive tundras, or

DOMINION OF CANADA
AND NEWFOUNDLAND.
Cities with over 100,000 . . . . Toronto
Cities with 50,000 to 100,000 . . . Hamilton
Other Cities . . . . . Port Arthur
Capitals with less than 50,000 . . . Regina
Capitals of Countries . Capitals of Provinces . Other Cities .
0 200 400 600 Miles
Comparative Area.
PENN.
45,215
Square Miles.
Longitude West 100° from Greenwich.
ARCTIC OCEAN
PACIFIC OCEAN
ATLANTIC OCEAN
HUDSON BAY
GREENLAND
BAFFIN LAND
LABRADOR PENINSULA
MACKENZIE
YUKON
ALASKA
ATHABASCA
SASKATCHEWAN
ALBERTA
ASSINIBOIA
MANITOBA
ONTARIO
QUEBEC
NEW BRUNSWICK
NOVA SCOTIA
NEWFOUNDLAND
PRINCE EDWARD I.
CAPE BRETON I.
Toronto
Montreal
Ottawa
Winnipeg
Quebec
Halifax
St. John's
Boston
New York
Chicago
Detroit
Buffalo
Regina
Victoria
San Francisco
Portland
Calgary
Edmonton
Fredericton
Charlottetown
THE M·N. CO.

FIG. 398.

barrens, having almost no inhabitants with the exception of a few Eskimos along the coast. Locate the four largest rivers and the three largest lakes.

The *forests* are one of the greatest sources of wealth, and many of the cities have sawmills, furniture factories, pulp mills, etc.; for example, FREDERICTON and ST. JOHN in New Brunswick, and MONTREAL, OTTAWA, and TORONTO farther west.

Fishing is an important industry, especially along the eastern coast (Fig. 369). Some of the best-known ports are YARMOUTH and HALIFAX in Nova Scotia, and ST. JOHN'S in Newfoundland. Vessels from the latter port are engaged in *sealing* and *whaling*. The seals on the eastern side of Canada are of value for their fat, or blubber, and not for their fur.

Wheat and *hardy fruits* are raised in British Columbia, as in the state of Washington, which has a similar climate. Farther east *cattle* and *sheep raising* are the main industries, as in Montana. Manitoba is noted for *wheat*, and WINNIPEG is a wheat centre, like Minneapolis. The best agricultural section is in Ontario. In this province, which contains nearly one-half of the inhabitants of Canada, the best farming land and the most people are found in the peninsula which extends southward between Lake Huron and Lakes Erie and Ontario. Name the large cities in this peninsula. The lakes so temper the climate that *grapes* and *peaches* flourish as in New York. Also quantities of *grain* are produced, and many *cattle*, *sheep*, *horses*, and *hogs* are raised. There is other good farm land along the St. Lawrence and in New Brunswick, Prince Edward Island, and Nova Scotia.

The Klondike region of Canada, noted for *gold*, has

already been mentioned (p. 515), and there are many other mineral deposits, including *iron ore*, *copper*, and *coal*. The most important coal mines are found on Cape Breton Island, a part of northern Nova Scotia, where there is also *iron manufacturing*.

The main water outlet for Canada is by the way of the Great Lakes and the St. Lawrence River, with large ship canals around the rapids. Name the chief cities along this route. What is the corresponding outlet in the United States? Why is the population along one route much greater than that along the other? MONTREAL is at the head of navigation to ocean vessels, since there are rapids in the river just above it. Its commerce is therefore greater than that of QUEBEC; and because so many raw products can be brought cheaply by water, it is a manufacturing centre as well. Among the articles made there are sugar, boots and shoes, cotton and woollen goods, and iron and steel goods. OTTAWA, the capital of Canada, is situated where there are falls in the Ottawa River. The situation of TORONTO is especially favorable to manufacturing. How?

The greatest railway in Canada is the Canadian Pacific (Fig. 394), which extends from ST. JOHN, New Brunswick, where there is a good harbor, to VANCOUVER on the Pacific coast. Name the principal towns along the route. Locate VICTORIA on Vancouver Island. The Canadian Pacific railway offers the shortest route from England to China and Japan, and much freight is sent that way.

Islands north of North America. — These islands have very few inhabitants, and those mainly *Eskimos*. Tell how they live. Note the country to which *Greenland* belongs (Fig. 357). Tell about the icebergs that break off from the Greenland glaciers.

Countries South of the United States

Mexico. — The physiography of Mexico recalls that of Spain, since the interior is a table-land crossed by mountains with low land along the coast. The rivers have rapids and falls, and most of them are quite short. Why? Name the two principal peninsulas. In what wind belts does Mexico lie? (Fig. 25). What follows about the distribution and quantity of rain? (Fig. 26; also pp. 31–34). What can you say about the temperature, remembering the different elevations of land?

Mexico is a republic composed of several states, with Mexico City as the capital. Spanish is the language of the country, which formerly belonged to Spain. Since the Spanish settlers freely intermarried with the Indians, many of the citizens are half-breeds; there are also pure-blooded Spaniards, semi-civilized Aztecs, and, in remote districts, tribes of savage Indians.

On the arid plateau, wherever the mountain streams make irrigation possible, *wheat*, *corn*, *beans*, and the *fruits* of the temperate zone are raised. The *maguey*, or *agave*, a plant of the arid regions, is extensively cultivated for its juice — which is made into the common drink called *pulque* — and for its fibre. *Grazing* is an important industry, as in western Texas.

On the damp coastal plains, *sugar cane*, *cotton*, and *tropical fruits* are grown; and upon the slopes between these plains and the table-land, *tobacco* and *coffee* (Fig. 425; also p. 116) are raised. In southern Mexico there are dense tropical forests containing valuable woods, such as *mahogany* and *rosewood*. Other products are *pepper*, *sarsaparilla*, and *vanilla*.

It was the mines that attracted the Spaniards to Mexico, and that country still produces such an amount of *silver* that it ranks first among silver-producing regions (Fig. 416). Large areas have never been carefully explored for ore, and in many of the mines, operated by Mexicans, very primitive methods are employed.

FIG. 399.
A map of Central America.

MEXICO CITY is the largest city, having a population of 350,000. Since good harbors are wanting, owing to the rising land (p. 488), VERA CRUZ is the only important port. There is *almost no manufacturing* in Mexican cities. Why?

Central America. — This mountainous region has several active volcanoes and is often disturbed by earthquakes. In fact, because of the frequent shocks it has been necessary to change the sites of some of the large cities. Name the five republics (Fig. 399). Their population is similar in origin to that of Mexico, and there are frequent revolutions, as in South America. Point out the British colony of British Honduras, or Belize.

What about the temperature and rainfall (Fig. 26) of Central America? A large portion of the land is covered with tropical forests containing valuable woods and the *rubber tree* (p. 115). As in Mexico, *coffee* is raised on the hill slopes in the shade of the forest trees, one of the most important sections for this industry being Guatemala (Fig. 426). *Bananas*, *sugar*, *tobacco*, *indigo*, and *cocoa* are other products. The largest city is GUATEMALA with seventy thousand inhabitants.

Nicaragua is of special interest to us on account of the proposed *Nicaragua Canal*, favored in our country in preference to the Panama Canal (p. 132). The Nicaragua route is longer than the Panama route, but a part of the distance is occupied by a lake, and the elevation necessary to be passed over is only half as great as that for the Panama Canal.

Islands. — From Yucatan to Florida a chain of islands, called the *West Indies* or *Antilles*, extends to the mouth of the Orinoco River, thus enclosing the Caribbean Sea (Fig. 400). Why the name West Indies? To what extent do they lie within the tropics? What about their winds and rainfall? Two of the larger ones have already been treated (p. 515). *Jamaica*, the third in size, is a British colony. Name its capital. The inhabitants are mainly negroes engaged in raising *sugar cane*, *early vegetables*, and *tropical fruits*.

Haiti, next to Cuba in size, is composed of two independent negro republics. Name their capitals. Much of the land is forest covered, and agriculture is the principal occupation. The products are similar to those of the other islands. How does Haiti rank in the production of *coffee?* (Fig. 426).

Note the names of some of the *Lesser Antilles*, and also the countries to which they belong. What effect must the growing beet sugar industry of Europe (p. 288) have upon these islands, in which *sugar-cane* is the most important product?

The *Bahamas* are numerous small islands built of coral Many *sponges* are obtained on the reefs, and *early vegetables*

FIG. 400.

A map of the West Indies.

pineapples, *oranges*, and *cocoanuts* come from the islands. They are also a *winter resort*. Find the *Bermudas* (Fig. 356) a tiny island group in the open ocean. They form a British colony. The Bermudas are also a *winter resort*, and the inhabitants are engaged in raising *Easter lilies* and early vegetables, especially *potatoes* and *onions*, for the American market.

XXV. THE UNITED STATES COMPARED WITH OTHER COUNTRIES

Area and Population. — In spite of the vast extent of the United States, there are three empires in the Old

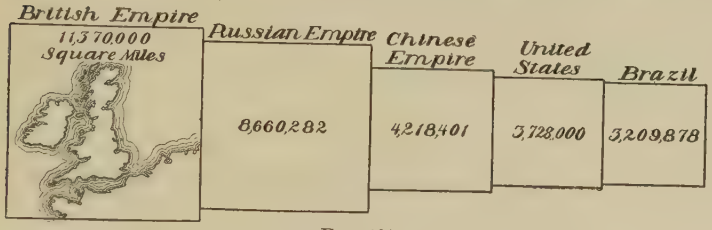


FIG. 401.
Area of the five largest nations

World with a greater *area*. Which are they? (Fig. 401). Which country is fifth in size? Compare the United States with each of these in area.

The United States also ranks fourth in *population* (Fig. 402). Name the five most populous countries in the

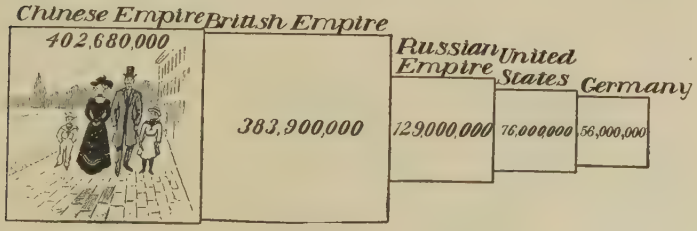


FIG. 402.
The five most populous nations, 1900.

order of their rank. What facts do you discover by comparing Figures 401 and 402? Figure 403 shows the

density of population, or the number of people per square mile, in some of the countries in the world. From this it will be seen that the United States is very thinly settled compared with many countries. Compare the United States in this regard with Belgium, England, Cuba, Mexico, and Canada.

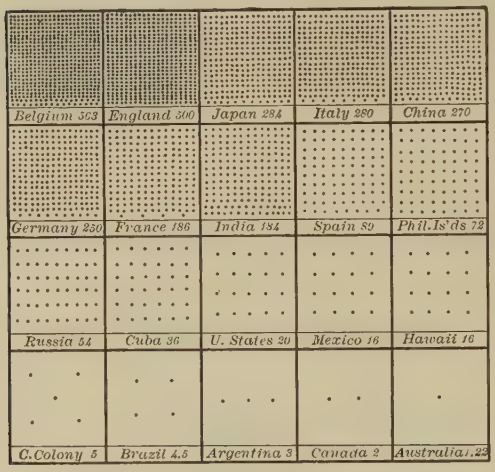


FIG. 403.

Density of population of some of the countries.

Leading Raw Products.— Nevertheless, the United States leads the world in many very important respects and approaches leadership in several others. Figure 404 shows that no nation is a

FIG. 404.

Sketch map to show the approximate distribution of corn.

close rival to us in the production of *corn*. What countries, however, raise large quantities of it? Why is no

FIG. 405.
Approximate distribution of wheat.

corn raised in the British Isles? (p. 181). *Wheat* is more widely cultivated than corn (Fig. 405). Yet we are far

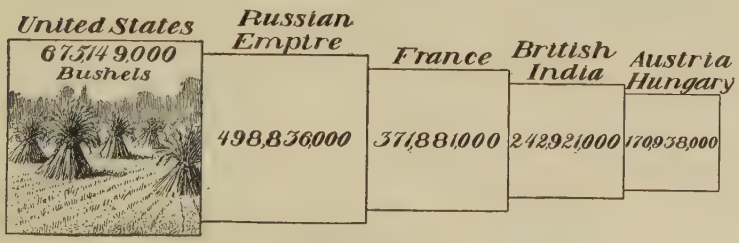


FIG. 406.
The five leading wheat-producing countries, 1898.

in the lead in that grain (Fig. 406). Point out (Fig. 405) the leading wheat fields of the world. Which sections are important for both wheat and corn? On which side of the Atlantic is wheat raised farthest north? Why?

Cotton is limited to warm climates (Fig. 407), so that comparatively few countries raise it. Name the five that lead in its production (Fig. 408). To what extent does the

FIG. 407.
Approximate distribution of cotton.

output of the United States surpass that of the four other countries together? In what parts of the United States is most *cotton manufacturing* carried on? What other countries have important cotton-manufacturing industries?

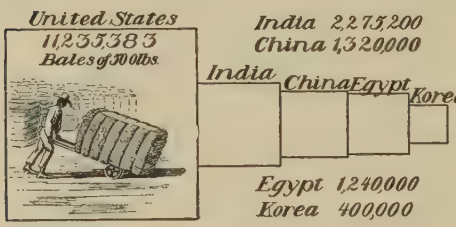


FIG. 408.
The five leading cotton-producing countries, 1898.

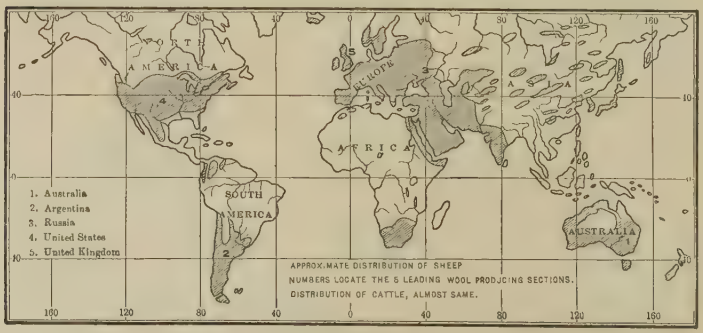


FIG. 409.
Approximate distribution of sheep.

Note the distribution of *sheep and cattle* (Fig. 409). What is our rank in the production of *wool?* (Fig. 410).

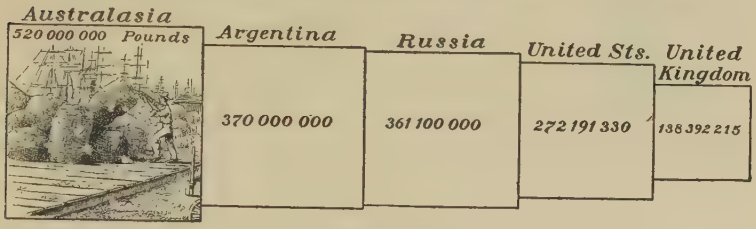


FIG. 410.
The five leading wool-producing countries, 1899.

Yet we consume much more than we raise. Recall some facts concerning sheep raising in Australia, Argentina, and the United States. What nations have important *woollen manufacturing?*

The extreme importance of *coal and iron for manufacturing* purposes has often been emphasized. But Figure

FIG. 411.
Approximate distribution of coal.

411 represents the *coal fields* as very limited. What countries have little or none? Name the leading coal-producing sections, and state the rank of the United States in this mineral (Fig. 412).

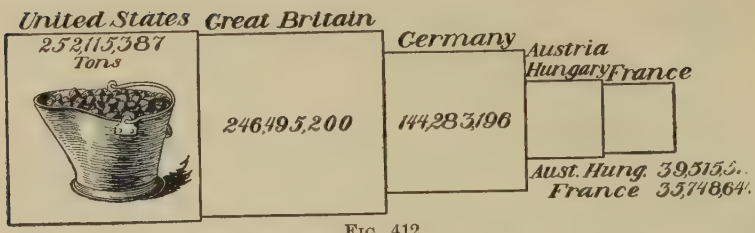


FIG. 412.
The five leading coal-producing countries, 1899.

Is *iron ore* more or less widely distributed than coal? (Fig. 413). How does the United States rank in the

FIG. 413.
Approximate distribution of iron mines.

output of this mineral (Fig. 413); also in the production of *pig iron* (Fig. 414), which demands coal as well as

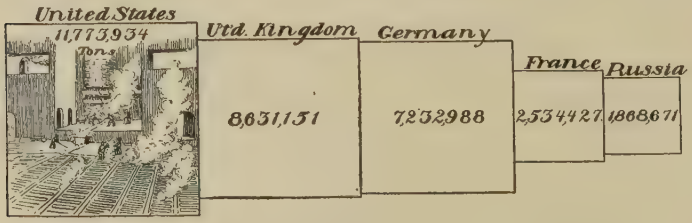


FIG. 414.
The five leading countries in the production of pig iron, 1898.

iron ore? How does the output of coal and iron correspond to the importance of countries as manufacturing nations? (Fig. 421).

Where are the principal *silver*-mining sections? (Fig. 415). And how do we compare with other countries

FIG. 415.
Approximate distribution of silver mining.

in this product? (Fig. 416). Notice to what extent the world is indebted to the New World for silver. Tell

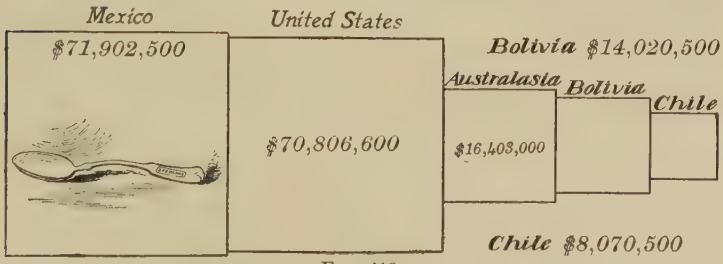


FIG. 416.
The five leading silver-producing countries, 1899.

about the distribution of *gold* (Fig. 417) and give our rank in the production of that metal (Fig. 418). How does the value of the total gold production compare with that of silver in the five leading regions for each?

Figure 419 suggests that the United States leads the world in the production of *petroleum*, or mineral oil, which

FIG. 417.

Approximate distribution of gold mining.

is true. The second most important district for petroleum is in Russia near the Caspian Sea. Other districts pro-

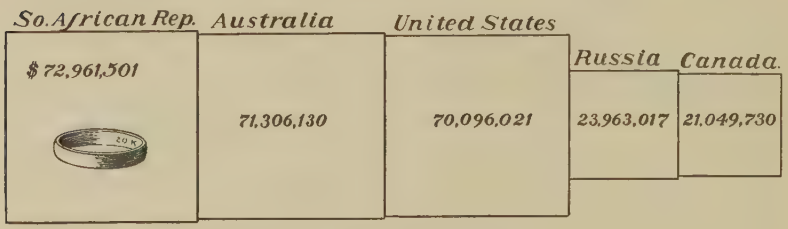


FIG. 418.

The five leading gold-producing countries, 1899.

duce little petroleum. On the same map with petroleum is shown the distribution of *rubber*. To what countries and climates is rubber confined? (Fig. 419).

Manufacturing and Commerce. — According to Figure 420 on what two continents is there the greatest development of *manufacturing?* What other smaller sections are active

in this industry? Considering the abundance of our raw materials and the energy and intelligence of our people,

FIG. 419.

Approximate distribution of petroleum; also of rubber.

FIG. 420.

Approximate distribution of manufacturing.

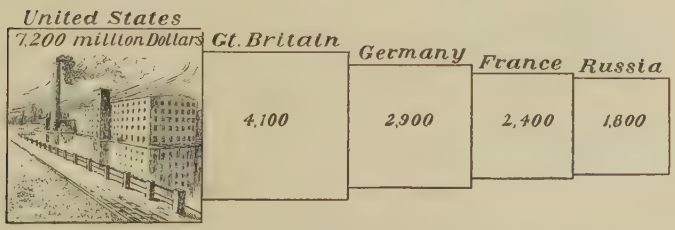


FIG. 421.

The five leading manufacturing countries, 1888.

it is not surprising that we surpass all other countries in such work (Fig. 421). State the rank of other leading nations in this occupation.

In provision for *transportation by rail* the United States also takes the leading place. It has by far the greatest number of miles of railway of any nation (Fig. 422),

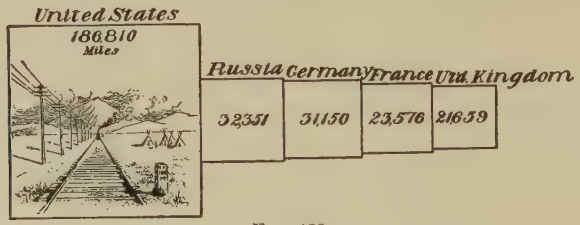


FIG. 422.
The five countries having the greatest length of railways, 1898.

though several small European countries have a greater development of railways in proportion to their area. The United States ranks second in provision for *transportation by water* (Fig. 423). State the rank of the five

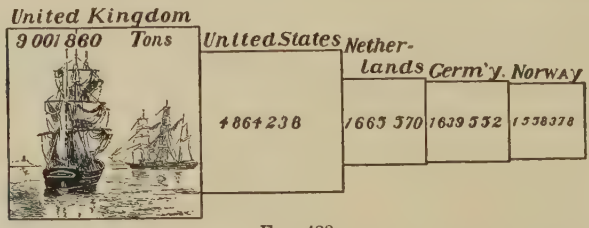


FIG. 423.
The five countries having the largest merchant marine, 1898.

chief countries in total length of *railways*, and in *merchant marine*. Give reasons why the United Kingdom should lead in merchant marine (p. 201). Why should Norway be of importance in this respect? (p. 255).

All these facts prepare us for Figure 424, which shows that the United States is the *wealthiest nation* on the

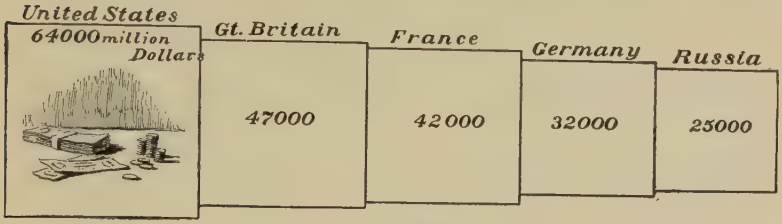


FIG. 424.
The five wealthiest nations, 1888.

face of the earth. Compare our wealth with that of other leading countries. In how many and what respects have our products and industries been shown to lead all nations of the world?

Dependence upon Other Nations. — All together the United States may be considered a wonderfully favored and independent nation, since it has such a wealth of raw products, and such an extensive development of manufacturing. We could, probably, better than any other nation, depend upon ourselves alone for all that we need, if occasion should arise. Yet so closely related are the nations of the world that if war arises between two of them, our industries and markets are affected. This is due largely to the fact that we produce far more than we need of certain commodities, as wheat, cotton, meat, and iron, for which a market must be found abroad. These we *export*. But it is also due to the fact that we are partly, or wholly, dependent upon foreign countries for certain other articles. These we *import*.

For example, Figure 425 shows that *coffee* is not grown within our states, although it is daily consumed in almost

FIG. 425.
Approximate distribution of coffee.

every household. Notice, however, that it is produced in Cuba, Porto Rico, and the Philippine Islands (Fig. 425). To what climate and countries is it confined? State the rank of the principal coffee-producing sections and compare their output (Fig. 426).

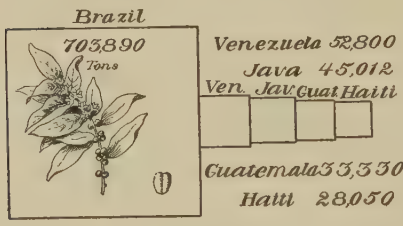


FIG. 426.
The five leading coffee-producing sections, 1899.

Note the *beet sugar* and *cane sugar* areas (Fig. 427). Also the

FIG. 427.
Distribution of sugar cane and beet sugar.

rank of the leading countries which manufacture cane sugar (Fig. 428). Our own states produce far less sugar

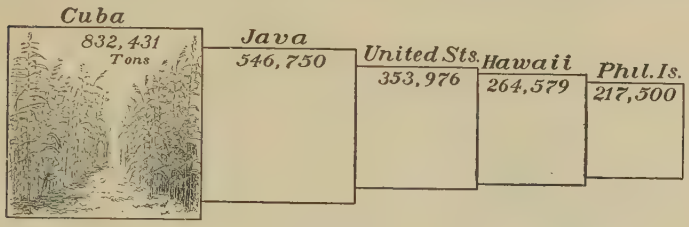


FIG. 428.

The five countries producing most cane sugar, 1898.

each year than we consume. Of what importance, therefore, in this respect is our newly established relation to Cuba and the Hawaiian and Philippine Islands?

Figure 429 represents us as depending wholly on foreign nations for raw *silk*. Name the chief silk-producing coun-

FIG. 429.

Approximate distribution of raw silk production.

tries; also compare their output (Fig. 430). Our *tea* also comes almost entirely from abroad (Fig. 431). From what region mainly? And while much *rice* is produced in our Southern States (Fig. 432), a large amount has to be

imported. From what sources must it be obtained? We have, therefore, a very extensive trade in *imports* as well as in *exports*.

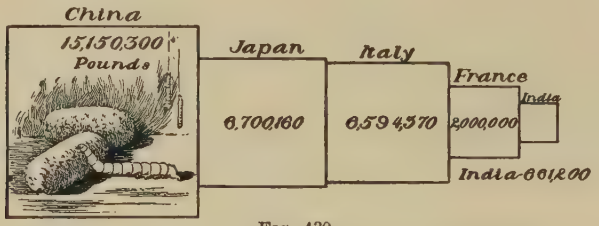


FIG. 430.

The five leading raw silk-producing countries, 1899.

FIG. 431.

Approximate distribution of tea.

FIG. 432.

Approximate distribution of rice.

Exports and Imports. — Our ten leading exports, named in order of value, together with the principal countries to which the goods are sent, are as follows: —

Articles	Value in 1900	Principal Countries to which they are sent
1. Cotton (mainly unmanufactured)	$265,836,000	Gt. Britain, Germany, France, Japan.
2. Breadstuffs (wheat, corn, flour, etc.)	262,744,000	Gt. Britain, Germany, Netherlands, Belgium.
3. Meat and dairy products	184,453,000	Gt. Britain, Germany, France, Belgium.
4. Iron and steel, and manufactures of	121,914,000	Gt. Britain, Canada, Germany, Mexico.
5. Mineral oils	75,612,000	Gt. Britain, Germany, Netherlands, Belgium.
6. Copper (mainly manufactures of)	57,853,000	Gt. Britain, Netherlands, France, Germany.
7. Wood, and manufactures of	50,598,000	Gt. Britain, Canada, Germany, W. Indies.
8. Animals (mainly cattle)	43,585,000	Gt. Britain.
9. Tobacco	35,433,000	Gt. Britain, Germany, Italy, France.
10. Leather, and manufactures of	27,293,000	Gt. Britain, Australasia, Canada.
Total value of exports	$1,394,484,000	

The ten leading imports, on the other hand, are as follows: —

Articles	Value in 1900	Principal Countries from which they come
1. Sugar and molasses	$101,141,000	E. Ind., Hawaiian Isds., Cuba, Germany (beet sugar).
2. Silk, and manufactures of	76,224,000	Japan, France, China, Italy.
3. Hides and skins	57,936,000	E. Indies, S. America, Gt. Britain, France.
4. Fibre, and manufactures of	57,933,000	Mexico, Philippines, E. Indies.
5. Chemicals, drugs, etc.	53,705,000	Germany, E. Indies, Gt. Britain.
6. Coffee	52,468,000	Brazil, Cent. America, E. Indies, Mexico.
7. Cotton (mainly manufactures of)	49,502,000	Gt. Britain, Germany, Switzerland, France.
8. Wool, and manufactures of	36,425,000	Gt. Britain, Germany, France, S. America.
9. Rubber and rubber goods	33,860,000	Brazil, Gt. Britain.
10. Fruits and nuts	19,264,000	Italy, Cent. America, W. Indies.
Total value of imports	$849,941,000	

In Figure 433 trace the main *steamship lines* of the world by which these goods are carried. Compare the value

and nature of our exports and imports. How is the result encouraging?

More than one-third of all our foreign trade is with the British Isles, the ten leading countries ranking as follows: —

THE LEADING TEN COUNTRIES WITH WHICH THE U.S. TRADES

Countries		Value in 1900	Kinds of Goods
1. British Isles	Exp.	$533,820,000	Provisions, breadstuffs, raw cotton.
	Imp.	159,582,000	Cotton goods, raw wool, tin, jewellery, rubber goods.
	Total	693,402,000	
2. Germany	Exp.	187,348,000	Raw cotton, breadstuffs, provisions.
	Imp.	97,375,000	Beet sugar, chemicals and drugs, cotton goods, silk goods.
	Total	284,723,000	
3. France	Exp.	83,335,000	Raw cotton, copper, mineral oil.
	Imp.	73,012,000	Silk goods, hides, jewellery, cotton goods.
	Total	156,347,000	
4. Canada	Exp.	97,337,000	Coal, breadstuffs, cotton and manufactures of.
	Imp.	39,932,000	Lumber, coal, hides.
	Total	137,269,000	
5. Netherlands	Exp.	89,387,000	Breadstuffs, provisions, copper, mineral oil.
	Imp.	15,853,000	Jewellery, tin.
	Total	105,240,000	
6. West Indies	Exp.	48,561,000	Provisions, breadstuffs, animals.
	Imp.	52,562,000	Sugar, fruits, cocoa.
	Total	101,123,000	
7. East Indies	Exp.	6,634,000	Mineral oil, cotton goods.
	Imp.	73,243,000	Sugar, hides, tin.
	Total	79,877,000	
8. Brazil	Exp.	11,578,000	Breadstuffs, mineral oil, provisions.
	Imp.	58,073,000	Coffee, rubber, sugar.
	Total	69,651,000	
9. Mexico	Exp.	34,975,000	Coal, cotton goods, iron and steel manufactures.
	Imp.	28,646,000	Sisal grass, coffee, lead, hides.
	Total	63,621,000	
10. Japan	Exp.	29,087,000	Manufactured cotton, mineral oil, iron and steel manufactures.
	Imp.	32,749,000	Silk, tea.
	Total	61,836,000	

Name some of the countries which probably have the same exports as the United States, and which are, therefore, likely to be active rivals to us in supplying foreign markets.

Owing to our trade relations with the United Kingdom, what hardships would probably be brought upon the British if they entered upon a war with us? How might the Germans

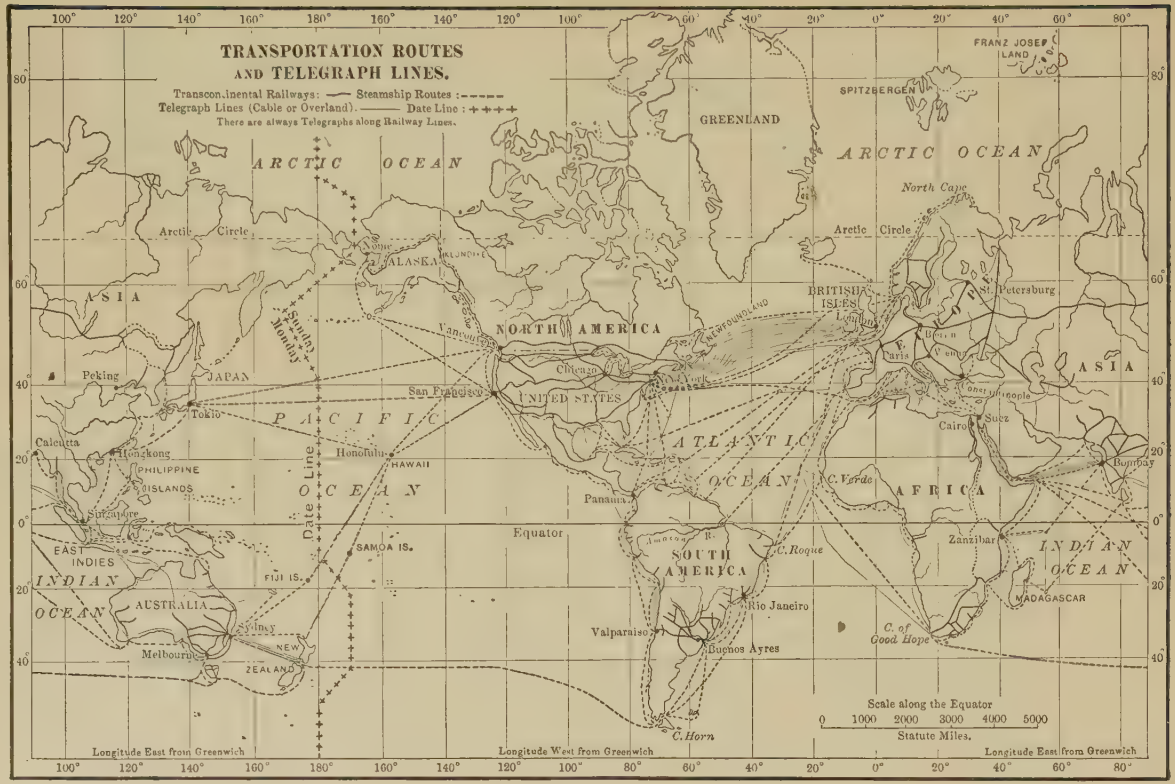

TRANSPORTATION ROUTES
AND TELEGRAPH LINES.
Transcontinental Railways: —— Steamship Routes :------
Telegraph Lines (Cable or Overland). ——— Date Line : + + + +
There are always Telegraphs along Railway Lines.
ARCTIC OCEAN
GREENLAND
SPITZBERGEN
FRANZ JOSEF LAND
North Cape
Arctic Circle
ALASKA
ASIA
NORTH AMERICA
BRITISH ISLES
London
St. Petersburg
Paris
Berlin
Vienna
Constantinople
Peking
JAPAN
Tokio
San Francisco
Chicago
New York
UNITED STATES
NEWFOUNDLAND
Vancouver
Calcutta
Hongkong
PHILIPPINE ISLANDS
Singapore
Honolulu
HAWAII
PACIFIC OCEAN
ATLANTIC OCEAN
Panama
Equator
Suez
Cairo
Bombay
C. Verde
AFRICA
Zanzibar
INDIAN OCEAN
MADAGASCAR
C. Roque
SOUTH AMERICA
Rio Janeiro
Valparaiso
Buenos Ayres
C. of Good Hope
C. Horn
EAST INDIES
INDIAN OCEAN
AUSTRALIA
Sydney
Melbourne
NEW ZEALAND
FIJI IS.
SAMOA IS.
Date Line
Scale along the Equator
0 1000 2000 3000 4000 5000
Statute Miles.
Longitude East from Greenwich
Longitude West from Greenwich
Longitude East from Greenwich

FIG. 433.

suffer if they were at war with us? How might the French suffer? On the other hand, what hardships would come to us in each case? Are we more or less independent than these countries in case of such war? Why?

Reasons for the Rank of the United States. — The preceding figures and diagrams show that several European countries are the chief competitors with the United States in the *world's trade*. Give examples. But so far as the future is concerned, several important facts are in our favor. In the first place, we are still in our youth as a people, while some of the leading nations of Europe have perhaps already reached the zenith of their power. In the second place, the territory of most of those countries is densely populated, as shown in Figure 403. Note the number of inhabitants per square mile in Belgium, Germany, and France. When we contrast with these figures our average of only twenty persons per square mile, the possibility of our future growth seems almost without limit. Immense tracts of land, which in Europe would be carefully tilled, are in our country not even cleared for pasture; and in no large section of the United States do we even approach the careful hand tillage of Belgium and some other European countries.

Another point in our favor is the varied climate and physiography of our vast country, encouraging varied products. Almost all farm products can be raised with little care in our rich soil and favorable climate. Add to this the wonderful mineral resources, which are apparently not equalled on any continent, and it will be seen that our natural resources, which have made present development possible, promise equally for the future.

Our people are another element to be considered in

reckoning past success and future promise. They have consisted, in large part, of those who had energy and ambition enough to migrate to a new land in the hope of bettering their condition. In their new home the possibilities have been so great that they have been encouraged to work and to improve themselves. As the environment of the desert has given rise to the nomad, and the ease of life in the tropical forest to the degenerate savage, so the environment in the United States has given rise to a race noted for its energy and enterprise. This race has been possible, however, largely by reason of the fact that it comes from a mixture of peoples already gifted. That resources alone will not make an energetic people and a great nation is well illustrated in China, where nature favors, but racial characteristics and customs are opposed to development.

Nor would the statement of reasons for the present position of the United States and her future prospects be complete if left here. There are two other elements of high importance; namely, education and government. Where people are hampered by ignorance, petty restrictions, and heavy taxes, unnecessarily imposed upon them by their rulers, they have little opportunity for progress. It is those European countries in which there are the best opportunities for education and the greatest freedom, that have made the greatest progress. And no nation in the world pays more attention to education, or guarantees its people a more active part in their entire government, than the United States.

APPENDIX I

REFERENCES TO BOOKS, ARTICLES, ETC.

PUBLISHING HOUSES. American Book Co., New York (A. B. C.); D. Appleton & Co., New York (App.); The Century Co., New York (Cent.); Educational Publishing Co., Boston (E. P. C.); Harper & Bros., New York (H. B.); Houghton, Mifflin & Co., Boston (H. M. C.); The Macmillan Co., New York (McM.); G. P. Putnam's Sons, New York (Put.); Charles Scribner's Sons, New York (Scrib.); Silver, Burdett & Co., Boston (S. B. C.).

MAGAZINES. *Century Magazine* ($0.35 each number), New York (*Cent. Mag.*); *Cosmopolitan* ($0.10 each), Irvington, N.Y. (*Cos.*); *Chautauquan* ($0.25 each), Meadville, Pa. (*Chaut.*); *Harper's Magazine* ($0.35 each), New York (*H. M.*); *Journal of School Geography* ($0.15 a number, $1.00 a year), Lancaster, Pa. (*J. S. G.*); *National Geographic Magazine* ($0.25 a number, $2.00 a year. Includes membership to Society), Washington, D.C. (*N. G. M.*); *Scribner's Magazine* ($0.25 each), New York (*S. M.*).

In referring to magazines, the volume is given first, the page last; thus, *May*, 1891, *Volume* 6, *page* 75 = *May*, '91, 6:75.

General. Many of the references in the First Book and some of those in the Second Book — for example, references to books on Physiography and the Philippines — would serve for this volume also. It is not, of course, expected that schools will find it possible to obtain all or even a large proportion of those mentioned. These lists, which could easily be multiplied to many times their present size, are offered merely as suggestions to aid those teachers who wish to have a good working library. Many good books are omitted from them, either because of their cost or for other reasons. At the end of each section of Mill's "International Geography" are references to good standard books. See also Mill, "Hints to Teachers, etc., on the Choice of Geographical Books" (Longmans, Green & Co., New York, $1.25).

THE TWO HEMISPHERES.

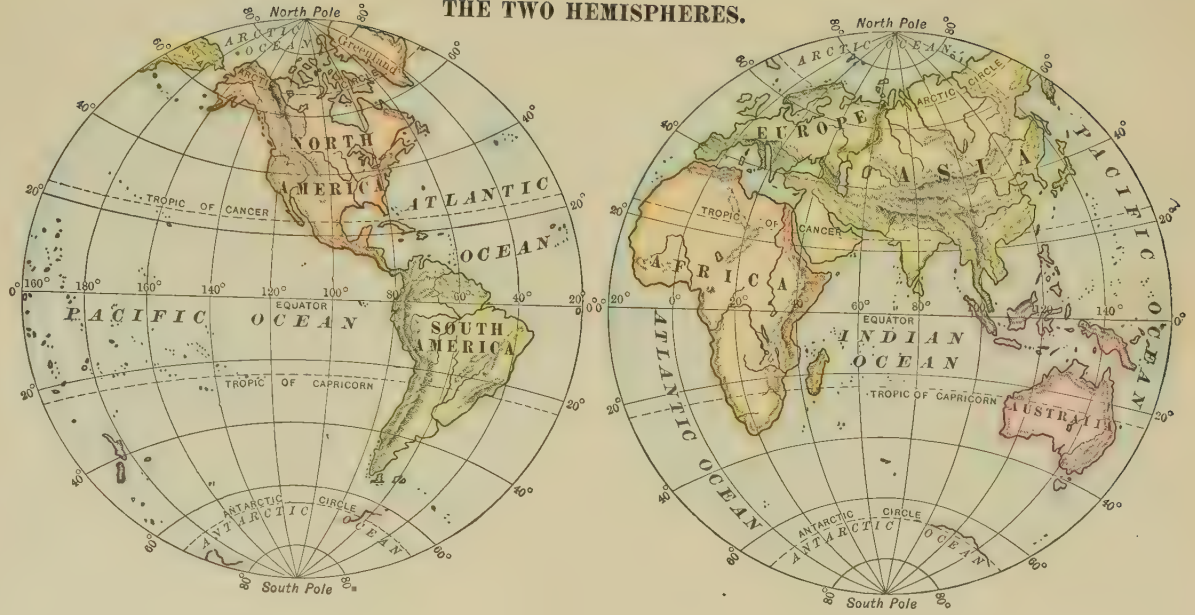


FIG. 434.

THE WORLD
ON MERCATOR'S PROJECTION.
Scale of Miles along the Equator.
0 1000 2000 3000 4000 5000
Longitude East from Greenwich
Longitude West from Greenwich
ARCTIC OCEAN
ASIA
EUROPE
NORTH AMERICA
SOUTH AMERICA
AFRICA
PACIFIC OCEAN
ATLANTIC OCEAN
INDIAN OCEAN
AUSTRALIA
Greenland
ICELAND
BRITISH ISLES
NEWFOUNDLAND
JAPAN
CHINA
UNITED STATES
CUBA
PORTO RICO
HAWAIIAN ISLANDS
PHILIPPINE ISLANDS
GUAM
SAMOA
NEW ZEALAND
EAST INDIA IS.
ARCTIC CIRCLE
TROPIC OF CANCER
EQUATOR
TROPIC OF CAPRICORN
C. Chelyuskin
Bering Sea
ALASKA
C. Prince of Wales
Rocky Mts.
Hudson Bay
Davis Strait
C. Farewell
North Sea
SPITZBERGEN
FRANZ JOSEF LAND
NOVA ZEMBLA
North Cape
St. Petersburg
Ural Mts.
Berlin
London
Paris
Pyrenees
Gibraltar
Mediterranean Sea
Constantinople
Himalaya Mts.
Alexandria
Cairo
Calcutta
Arabian Sea
Bay of Bengal
C. Verde
C. St. Roque
Andes Mts.
Rio de Janeiro
Buenos Aires
Cape Horn
Johannesburg
Cape Town
Cape of Good Hope
Melbourne
Sydney
Peking
Tokio
Hongkong
Manilla
Singapore
Himalaya Mts.
San Francisco
Chicago
New York
Washington
THE M-N. CO.

FIG. 435.

Among the many valuable but expensive books of reference mention may be made of Réclus' "The Earth and its Inhabitants" (App., 19 vols., $5.00 each); Stanford's "Compendiums of Geography" (Scrib., 8 vols. at $4.50 and 2 vols. at $8.40); and Baedeker's Guide Books (Scrib.), price variable. The latter may be found in the libraries of friends who have travelled abroad.

There are a number of series for young people which contain good material: For example, Butterworth, "Zigzag Journey Series" (Dana Estes & Co., Boston, 18 vols., $1.50 each); Hale, "Family Flight Series" (Lothrop Publishing Co., Boston, 5 vols., $1.50 each); Champney, "Three Vassar Girls" series (Dana Estes & Co., Boston, 11 vols., $0.75 each).

Every teacher of geography would find Mill's "International Geography," (App., $3.50) and "The Statesman's Year Book" (McM., $3.00) of inestimable value. For physiography and climate some help may be gained from Tarr, "First Book of Physical Geography" (McM., $1.10). For reference to magazines, see First Book of this series, pp. 256 and 257. Every teacher ought to have access to at least one of these magazines, and the subscription price is so low that they are accessible to all. Notice how frequently the *National Geographic Magazine* and the *Journal of School Geography* are referred to in the following lists; yet only a very few have been selected from the great number of really valuable articles. The *Bulletin, American Bureau of Geography*, also contains many valuable articles in each issue.

South America. There is a *Handbook* for each of the republics, issued by the Bureau of American Republics, Washington, D.C., price from $0.30 to $0.50 each. Ballou, "Equatorial America" (H. M. C., $1.50); Carpenter, Geographical Reader, "South America" (A. B. C., $0.60); Childs, "South American Republics" (H. B., $3.50); Curtis, "Capitals of Spanish America" (H. B., $3.50); Coe, "Our American Neighbors" (S. B. C., $0.60); President Hubbard's Annual Address, "South America" (*N. G. M.*, March, '91, 3:1); "Climatic Notes made during a Voyage around South America" (*J. S. G.*, Sept. and Oct., '98, 2:241 and 297); "A Winter Voyage through the Straits of Magellan" (*N. G. M.*, May, '97, 8: 129); "The First Landing on the Antarctic Continent" (*Cent. Mag.*, Jan., '96, 51:432); "Magellan and the Pacific" (*H. M.*, Aug., '90, 81: 357); Bates, "A Naturalist on the River Amazon" (Humboldt Library, New York, $1.00); Andrews, "Brazil, Its Conditions and Prospects" (App., $1.50); Ford, "Tropical America" (Scrib., $2.00); "The Valley of the Amazon and its Development" (*J. S. G.*, Sept., '97, 1:193); "The Argentine Capital" (*H. M.*,

March, '91, 82:491); "Argentine Provincial Sketches" (*H. M.*, Apr., '91, 82:781); "The Argentine People," etc. (*H. M.*, May, '91, 82: 863); "Patagonia" (*N. G. M.*, Nov., '97, 8:305); "The Republic of Uruguay" (*H. M.*, May, '91, 82:906); "The Republic of Paraguay" (*H. M.*, July, '91, 83:222); Rodway, "In the Guiana Wilds" (L. C. Page & Co., Boston, $1.25); Curtis, "Venezuela" (H. B., $1.25); "Venezuela: her government," etc. (*N. G. M.*, Feb., '96, 7:49); "Glimpses of Venezuela and Guiana" (*Cent. Mag.*, July '96, 52: 358); Whymper, "Travels amongst the Great Andes of the Equator" (Scrib., $2.50); "Across the Andes" (*H. M.*, Sept., '90, 81:489); "The Ascent of Illimani" and "Climbing Mount Sorata" (*H. M.*, Oct. and Nov., '99, 99.657 and 863); "The Road to Bolivia" (*N. G. M.*, June and July, 1900, 11:209 and 264); "A Journey in Ecuador" (*N. G. M.*, July, '96, 7:238); Pratt, "Pizarro: Conquest of Peru" E. P. C., $0.30); "Impressions of Peru" (*H. M.*, Jan., '91, 82:253); Smith, "Temperate Chile" (McM., $3.50); "The Climatic Control of Occupation in Chile" (*J. S. G.*, Dec., '97, 1:289); Articles on Chile (*H. M.*, Oct. and Nov., '90, 81:764 and 901); "A Day in the Falkland Islands" (*J. S. G.*, Feb., '98, 2:49).

Europe. Lyde, "A Geography of Europe" (McM., $0.50); Coe, "Modern Europe" (S. B. C., $0.60); Emerson, "European Glimpses and Glances" (Cassell & Co., New York, $1.00); King, "Northern Europe" (Lee & Shepard, Boston, $0.60); Davis, "The Rulers of the Mediterranean" (H. B., $1.25); "From the Black Forest to the Black Sea" (*H. M.*, Feb. to Aug., '92, Vols. 84 and 85); Lyde, "A Geography of the British Isles" (McM., $0.60); Green, "A Short Geography of the British Islands" (McM., $0.90); Davis, "Our English Cousins" (H. B., $1.25); Pratt, "Stories of England" (E. P. C., $0.40); Geikie, "The Scenery in Scotland" (McM., $3.50); Corbin, "Schoolboy Life in England" (H. B., $1.25); "The Temperature of the British Isles" (*J. S. G.*, Dec., '98, 2:361); "The House of Commons," etc. (*H. M.*, Dec., '93, 88:34); "A General Election in England" (*H. M.*, Sept., '93, 87:489); "London as seen by C. D. Gibson" (*S. M.*, Feb.–June, '97, Vol. 21); "The Geography of Greater London" (*J. S. G.*, Feb., '01, 5:41); "The Best-governed City in the World" (*H. M.*, June, '90, 81:99); "Notes on the Geography of Scotland" (*J. S. G.*, May, '98, 2:161); "From Home to Throne in Belgium" (*H. M.*, Apr., '97, 94:722); "Principal Cities of Holland" (*Chaut.*, June, '98, 27:227); "Land

Wrested from the Sea" (*Chaut.*, Aug. '95, 21 : 597); "The Picturesque Quality of Holland" (*S. M.*, 2 : 160; 5 : 162; 10 . 621); Macdonald, "Paris of the Parisians" (Lippincott, Philadelphia, $1.50); Davis, "About Paris" (H. B., $1.25); "Present Condition of France" (*Chaut.*, Dec., '98, 28 : 280); "Commerce and Manufactures of France" (*Chaut.*, Aug., '97, 25 : 480); "The French Army" (*H. M.*, Apr., '91, 82 : 653); Finck, "Spain and Morocco" (Scrib., $1.25); Stoddard, "Spanish Cities" (Scrib., $1.50); Stephens, "Portugal" (Put., $1.50); Loring, "A Year in Portugal" (Put., $1.50); "Up Gibraltar; to Tangier; into Spain" (*Chaut.*, Aug., '93, 17 : 515); Articles on Spanish Cities (*Cos.*, May–Sept., '96, Vol. 21); Thomas, "Sweden and the Swedes" (Rand, McNally & Co., Chicago, $3.75); Pratt, "Legends of Norseland" (E. P. C., $0.40); "A Glacier Excursion in Norway" (*Cos.*, Oct., '97, 23 : 625); Stepniak, "The Russian Peasantry" (H. B., $1.25); Stepniak, "Russia under the Tzars" (Scrib., $1.50); Greene, "Army Life in Russia" (Scrib., $1.25); "Baltic Russia" (*H. M.*, July, '90, 81 : 295); "The Czar's People" (*H. M.*, June, '98, 97 : 3); "Awakened Russia" (*H. M.*, May, '98, 96 : 817); "Finland" etc. (*H. M.*, Feb., '91, 82 : 330; "The People of the Reindeer" (Laplanders) (*Cent. Mag.*, Aug., '99, 58 : 582); Pratt, "Stories from Old Germany" (E. P. C., $0.40); "The Government of German Cities" (*Cent. Mag.*, June, '94, 48 : 296); "Some Impressions of Berlin" (*Cos.*, Jan., 1900, 28 : 315); "Impressions of Berlin" (*H. M.*, Aug., '90, 81 : 340); "Stuttgart" (*H. M.*, Jan. and Feb., '98, 96 : 269 and 382); "The German Army of To-day" (*H. M.*, May, '92, 84 : 869); "German Universities" (*Chaut.*, Aug., '96, 23 : 560); "The German Royal Family" (*Chaut.*, Sept., '96, 23 : 668); Articles on Germany (*Chaut.*, Oct., '94–Nov., '95, Vols. 20–22); Lubbock, "The Scenery of Switzerland" (McM., $1.50); "A Thousand Miles through the Alps" (*S. M.*, June, '96, 20 : 28); "Venice in Easter" (*H. M.*, Apr., '95, 90 : 738); "Italian Gardens" (*H. M.*, June and Aug., '93, 87 : 165 and 393); "The Corso of Rome" (*S. M.*, Oct., '91, 10 : 399); "St. Peter's" (*Cent. Mag.*, July, '96, 52 : 323); "The Italian Army" (*H. M.*, Aug., '92, 85 : 419); Whitman, "Austria" (Put., $1.50); "Vienna as a Type City" (*J. S. G.*, May, '99, 4 : 175); "The Tyroleans" (*Cos.*, Sept., '98, 25 · 487); "The Banderium of Hungary" (*S. M.*, Mar., '97, 21 : 267); "The Austro-Hungarian Army" (*H. M.*, June, '92, 85 : 50); "Austria" (*J. S. G.*, Dec., '98, 2 : 394); "Wheeling in Tyrolean Valleys" (*Cent. Mag.*,

Apr., '97, 53 : 866); "Constantinople" (*S. M.*, Dec., '93–Jan., '94, Vols. 14 and 15); "A Visit to Athens" (*H. M.*, June, '96, 93 : 3); "In the Wake of a War" (Greece) (*H. M.*, Mar., '98, 96 : 548).

Asia. Lyde, "A Geography of Asia" (McM., $0.50); Carpenter, "Asia" (A. B. C., $0.60); Smith, "Life in Asia" (S. B. C., $0.60); "Across Asia on a Bicycle" (*Cent. Mag.*, May–Oct., '94, Vol. 48); Series of articles on Southwest Asia and India (*H. M.*, '90, '93–'95, Vols. 81, 87–91); Mathews, "New Testament Times in Palestine" (McM., $0.75); Douglas, "The Land where Jesus Christ lived" (Thomas Nelson & Sons, New York, $1.00); Curtis, "Howadji in Syria" (H. B., $1.50); "The Holy Places of Islam" (*H. M.*, Nov., '92, 85 : 813); "The Russo-Siberian Plain" (*J. S. G.*, March, '00, 1 : 81); "A Winter Journey through Siberia" (*Cent. Mag.*, Sept., '91, 42 : 643); Articles on Siberia (*H. M.*, July and Aug., '98, 97 : 240 and 327); Lyall, "The Rise of the British Dominion in India" (Scrib., $1.50); Pratt, "Stories of India" (E. P. C., $0.40); Kipling, "The Jungle Books" (Cent., $1.50); Elephant and Tiger Hunting in India (*H. M.*, July and Oct., '92, 85 : 290 and 706); "An American in Tibet" (*Cent. Mag.*, Nov., '90–March, '91, Vol. 41); "Among the Farthest People" (Tibet) (*Cos.*, Feb., 1900, 28 : 443); "Life in the Malay Peninsula" (*Cent. Mag.*, Feb., '93, 45 : 577); Colquhoun, "Overland to China" (H. B., $3.00); Colquhoun, "China in Transformation" (H. B., $3.00); "The Crisis in China" (H. B.; $1.00); Little, "Through the Yangtse Gorges" (Scrib., $2.50); Ralph, "Alone in China" (H. B., $2.00); Pratt, "Stories of China" (E. P. C., $0.40); "In the City of Canton" (*Cent. Mag.*, Nov., '94, 49 : 59); "The Great Wall of China" (*Cent. Mag.*, Jan., '93, 45 : 327 and 332); Series of Articles on China (*Cent. Mag.*, Aug.–Oct., '99, Vol. 58); also (*H. M.*, June–Aug., '95, Vol. 91); Griffis, "Corea: The Hermit Nation" (Scrib., $2.50); "Korea and the Koreans" (*N. G. M.*, '90, 2 : 231); Norman, "The Real Japan" (Scrib., $1.50); Scidmore, "Jinrikisha Days in Japan" (H. B., $2.00); Bramhall, "Wee Ones of Japan" (H. B., $1.00); Series of Articles on Japan (*H. M.*, '94 and '95, Vols. 89 and 90); also (*S. M.*, Apr.–June, '93, Vol. 13); also (*S. M.*, '90 and '91, Vols. 8 and 9); "Japanese Women" (*H. M.*, Dec., '90, 82 : 119); "An American Artist in Japan" (*Cent. Mag.*, Sept., '89, 38 : 670).

Africa. Lyde, "A Geography of Africa" (McM., $0.50); Stanley and others, "Africa: Its Partition and Its Future" (Dodd, Mead &

Co., New York, $1.25); Badlam, "Views in Africa" (S. B. C., $0.72); Annual Address of President Hubbard, "Africa, Its Past and Future" (*N. G. M.*, '89, 1: 99); "Africa since 1888" (*N. G. M.*, May, '96, 7: 157); Curtis, "Nile Notes of a Howadji" (H. B., $1.50); Edwards, "A Thousand Miles up the Nile" (G. Routledge & Sons, New York, $2.50); Rawlinson, "The Story of Ancient Egypt" (Put., $1.50); "The Egyptian Sudan and Its History" (*J. S. G.*, Feb. '99, 3: 41); "In Fascinating Cairo" (*Cent. Mag.*, Oct., '99, 58: 811); "Climatic Control in the Desert" (*J. S. G.*, Sept., '99, 4: 255); "A Sahara Caravan" (*S. M.*, March, '93, 13: 315); "Cairo in 1890" (*H. M.*, Oct., Nov., '91, 83: 651 and 828); "Peeps into Barbary" (*H. M.*, Aug., '96, 93: 387); "Tripoli of Barbary" (*S. M.*, Jan., '90, 7: 37); "An Arab Fête in the Desert" (*Cos.*, Apr., '97, 22: 665); Bryce, "Impressions of South Africa" (Cent., $3.50); Stanley, "Through South Africa" (Scrib., $1.00); Hillegas, "Oom Paul's People" (App., $1.50); Bigelow, "White Man's Africa" (H. B., $2.50); Younghusband, "South Africa of To-day" (McM., $2.00); "Empire-building in South Africa" (*Cos.*, March, '96, 20: 472); Drummond, "Tropical Africa" (Scrib., $1.00); Stanley, "My Kalulu" (Scrib., $1.50); Stanley, "My Dark Companions" (Scrib., $2.00); "The Pygmies of the Great African Forest" (*S. M.*, Jan., '91, 9: 3); "Abyssinia" (*N. G. M.*, March, '01, 12: 89); "The Gold Coast, Ashanti and Kumassi" (*N. G. M.*, Jan., '97, 8: 1); "Life among the Congo Savages" (*S. M.*, Feb., '90, 7: 135).

Australia, etc. Davitt, "Life and Progress in Australasia" (New Amsterdam Book Co., New York, $2.50); Pratt, "Stories of Australasia" (E. P. C., $0.40); Kellogg, "Australia and the Islands of the Sea" (S. B. C., $0.68); Ballou, "Under the Southern Cross" (H. M. C., $1.50); "The Australian Horseman" (*H. M.*, July, '99, 99: 257); "Convicts and Bushrangers in Australia" (*Cos.*, May and June, '96, 21: 91 and 173); "New Zealand" (*H. M.*, Aug., '91, 83: 327); Chalmers, "Pioneer Life and Work in New Guinea" (F. H. Revell & Co., New York, $1.50); Reeves, "Brown Men and Women" (McM., $3.50); "A Little Journey in Java" (*H. M.*, May, '94, 88: 918); "Down to Java" (*Cent. Mag.*, Aug., '97, 54: 527); "The Climate of the Philippine Islands" (*J. S. G.*, Dec., '99, 3: 361); "The Samoan Islands" (*N. G. M.*, Nov., 1900, 11: 417); "Samoa" (*N. G. M.*, June, 1900, 10: 207).

APPENDIX II

TABLES OF AREA, POPULATION, ETC.

SIZE OF THE EARTH

Length of the Earth's Diameter at the Equator (miles),	7,926	The Earth's Surface (square miles),	196,940,000
Length of Equator (miles),	24,902	Total area of oceans (square miles),	141,486,000

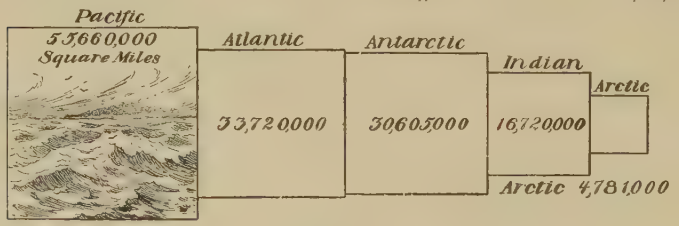


FIG. 436.

Relative areas of oceans. The Antarctic includes the great southern sea surrounding the south pole.

PRINCIPAL COUNTRIES, COLONIES, ETC.

	Area in Square Miles	Population
North America, '00	8,843,070	103,500,000
Alaska, '00	590,884	63,592
Bahama Islands, '01	5,450	53,735
Bermuda Islands, 01	20	17,535
British Honduras, '00	7,562	36,998
Canada, '01	3,653,946	5,369,666
Central America, '01	181,523	4,015,369
Costa Rica, '99	22,996	309,683
Cuba, '99	41,655	1,572,797
Greenland, '90	500,000	10,516
Guatemala, '00	48,290	1,574,340
Haiti (Island), '97	28,250	1,380,000
Honduras, '00	46,250	587,500
Jamaica, '98	4,200	745,104
Mexico, '00	767,005	13,545,462
Newfoundland, '99	42,200	210,000
Nicaragua, '00	49,200	500,000
St. Croix, '90	84	19,783
St. John, '90	21	984
St. Thomas, '90	32	12,019
Salvador, '01	7,225	1,006,848

United States. See page after next.

	Area in Square Miles	Population
South America, '00	**7,681,420**	**41,200,000**
Argentina, '00	1,113,849	4,794,149
Bolivia, '00	734,390	1,788,674
Brazil, '92	3,209,878	18,000,000
Chile, '00	279,901	3,128,095
Colombia, '81	504,733	3,878,600
Ecuador, '89	116,000	1,205,600
Falkland Isds., '01	6,500	2,043
Galapagos Isds., '89	2,400	400
Guiana, British, '01	109,000	288,170
Guiana, Dutch, '99	46,060	67,128
Guiana, French, '00	30,500	30,300
Juan Fernandez	36	
Paraguay, '99	157,000	630,103
Peru, '96	695,733	4,609,999
South Georgia Isds	1,000	uninhabited
Tobago, '01	114	18,750
Trinidad Isd., '01	1,754	253,250
Uruguay, '00	72,210	930,680
Venezuela, '94	593,943	2,444,816
Europe, '00	**3,855,828**	**376,400,000**
Andorra, '97	175	6,000
Austria, '00	115,903	26,150,597
Austria-Hungary, '00	264,204	46,810,981
Balearic Isles, '97	1,860	306,926
Belgium, '00	11,373	6,693,810
British Empire, '01	11,137,213	396,105,693
British Isles, '01	120,979	41,605,323
Bulgaria, '01	37,360	3,733,189
Corsica, '01	3,377	276,829
Crete, '01	3,326	309,253
Denmark, '01	15,360	2,464,770
England, '01	50,863	31,070,194
Faroe Isds., '01	512	15,230
France, '01	204,092	38,641,333
German Empire, '00	208,830	56,367,178
Great Britain, '01	88,094	36,998,178
Greece, '96	25,014	2,433,806
Hebrides Isds., '97	3,000	100,000
Hungary, '00	125,039	19,092,292
Iceland, '90	39,756	70,927
Ireland, '01	32,583	4,456,546
Italy, '01	110,646	32,449,754
Liechtenstein, '91	65	9,434
Luxemburg, '00	998	236,543
Malta, '00	95	183,679
Monaco, '90	3	13,304
Montenegro, '01	3,630	228,000
Netherlands, '00	12,648	5,179,100
Norway, '00	124,445	2,239,880
Orkney Isds., '01	376	28,698
Portugal, '00	36,038	5,428,659
Prussia, '00	134,603	34,472,509
Roumania, '99	50,720	5,912,520
Russia, '97	2,095,616	106,264,136
Russian Empire, '97	8,660,395	129,004,514
San Marino, '97	23	9,537
Sardinia, '01	9,294	789,314
Scotland, '01	29,785	4,472,103
Servia, '00	18,630	2,493,770
Shetland Isds., '01	551	28,185
Sicily, '01	9,936	3,529,266
Spain, '97	197,670	18,089,500
Sweden, '00	172,876	5,136,441
Switzerland, '01	15,976	3,315,443
Turkey, '00	65,752	6,086,300
Turkish Empire, '00	1,579,982	40,440,957
Wales, '01	7,446	1,455,881
Asia, with East Indies, '00	**16,770,951**	**877,000,000**
Aden, '01	80	41,222
Afghanistan, '01	215,400	4,000,000
Arabia, '01	345,000	6,000,000
Baluchistan, '01	134,000	810,000
Bhutan, '01	16,800	200,000
Bokhara, '01	92,000	2,500,000
Burma, '01	168,550	9,221,161
Ceylon, '01	25,333	3,576,990
China (proper), '01	1,353,350	383,000,000
Chinese Empire, '01	4,234,910	399,680,000
Chinese Turkestan, '01	431,800	580,000
Cyprus, '01	3,584	237,022
Formosa, '98	13,458	2,640,309
French India, '01	196	275,100
French Indo-China, '01	256,096	17,999,850
India, '01	1,559,603	294,266,701
Japan, '98	161,198	46,458,249
Khiva, '01	22,320	800,000
Korea, '01	82,000	8–16,000,000
Manchuria, '01	362,310	7,500,000
Mongolia, '01	1,288,000	2,000,000
Nepal, '01	54,000	2–5,000,000
Oman, '01	82,000	1,500,000
Palestine, '01	10,000	400,000
Persia, '01	628,000	9–9,500,000
Portuguese Indies, '01	7,458	300,000
Russia in Asia, '97	6,564,778	22,697,469
Russian Turkestan, '97	409,434	4,888,183
Siam, '01	244,000	5,000,000
Siberia, '97	4,833,496	5,727,090
Straits Settlements, '01	1,472	572,249
Sungaria, '01	147,950	600,000
Tibet, '01	651,500	6,000,000
Turkey in Asia, '01	650,394	17,545,300

	Area in Square Miles	Population
Africa, '00	**11,508,793**	**170,000,000**
Abyssinia, '01	150,000	3,500,000
Algeria (Fr.), '01	184,474	4,774,042
Ashanti (Br.), '91	15,000	1,473,882
British Central and South Africa, '00	680,945	3,000,000
British East Africa, '00	1,000,000	6,620,000
British Somaliland, '91	68,000	240,000
Canary Isds. (Sp.), '97	2,808	334,521
Cape Colony (Br.), '01	276,775	2,350,000
Cape Verde Isds. (Port.) '00	1,480	147,424
Egypt, '97	400,000	9,734,405
Egyptian Sudan, '01	950,000	10,000,000
Eritrea (Italy), '01	88,500	450,000
French Sudan, '01	354,000	2,860,000
French Kongo, '01	496,920	8,950,000
French Somaliland, '01	8,640	30,000
French Territory, '01	3,684,144	33,123,880
Gambia (Br.), '97	2,700	50,000
German East Afr., '01	384,180	8,000,000
German Southwest Africa, '01	322,450	202,628
German Territory, '01	931,460	14,200,000
Gold Coast (Br.), '01	40,000	1,473,882
Italian Somaliland, '93	100,000	400,000
Kamerun (Ger.), '01	191,130	3,500,000
Kongo State, '01	900,000	30,000,000
Liberia, '01	14,360	1,068,000
Madagascar (Fr.), '00	227,750	2,244,872
Madeira Islands, '00	505	150,528
Mauritius (Br.), '01	705	370,497
Morocco, '01	219,000	5,000,000
Natal (Br.), '00	29,200	929,970
Niger Territories (Br.), '01	4–500,000	25–40,000,000
Orange River Col., '90	48,326	207,503
Portuguese E. Afr., '01	301,000	3,120,000
Portuguese Guinea, '01	4,440	820,000
Portuguese West Africa, '01	484,800	4,119,000
Reunion Island (Fr.), '01	970	173,200
St. Helena (Br.), '01	47	5,195
Sierra Leone (Br.), '01	4,000	74,835
Spanish Africa, '97	252,850	130,000
Togo, '01	33,700	2,500,000
Transvaal Colony, '98	119,140	1,094,100
Tripoli (Turk.), '01	398,738	1,300,000
Tunis (Fr.), '01	51,000	1,900,000
Zanzibar (Br.), '01	640	150,000
Australia, '01	**2,972,573**	**3,767,443**
New South Wales, '01	310,367	1,352,297
Northern Territory, '01	—	4,890
Queensland, '01	668,497	496,596
South Australia, '01	903,690	362,604
Tasmania, '01	26,215	172,475
Victoria, '01	87,884	1,200,918
Western Australia, '01	975,920	182,553
East Indies and Larger Islands of Pacific.		
Borneo, '91	309,343	2,025,578
Celebes, '91	71,470	1,997,860
Fiji Islands, '97	8,045	117,870
Hawaiian Islands, '00	6,449	154,001
Java, '01	50,554	26,125,053
Molucca Islands, '01	43,864	399,208
New Caledonia, '01	7,700	58,000
New Guinea, '01	275,329	3,050,000
New Zealand, '01	104,471	772,719
Philippine Islands, '00	114,356	8,000,000
Samoa Islands, '01	1,079	36,300
Solomon Islands, '01	16,300	175,000
Sumatra, '01	161,612	3,209,037

STATES AND TERRITORIES OF THE UNITED STATES

	Area in Square Miles	Population, 1900
Alabama	52,250	1,828,697
Alaska	590,884	63,592
Arizona	113,020	122,931
Arkansas	53,850	1,311,564
California	158,360	1,485,053
Colorado	103,925	539,700
Connecticut	4,990	908,355
Delaware	2,050	184,735
District of Columbia	70	278,718
Florida	58,680	528,542
Georgia	59,475	2,216,331
Guam, '97	180	8,561
Hawaiian Islands	6,449	154,001
Idaho	84,800	161,772
Illinois	56,650	4,821,550
Indiana	36,350	2,516,462
Indian Territory	31,400	391,960
Iowa	56,025	2,231,853
Kansas	82,080	1,470,495
Kentucky	40,400	2,147,174

	Area in Square Miles	Population, 1900
Louisiana	48,720	1,381,625
Maine	33,040	694,466
Maryland	12,210	1,190,050
Massachusetts	8,315	2,805,346
Michigan	58,915	2,420,982
Minnesota	83,365	1,751,394
Mississippi	46,810	1,551,270
Missouri	69,415	3,106,665
Montana	146,080	243,329
Nebraska	77,510	1,068,539
Nevada	110,700	42,335
New Hampshire	9,305	411,588
New Jersey	7,815	1,883,669
New Mexico	122,580	195,310
New York	49,170	7,268,012
North Carolina	52,250	1,893,810
North Dakota	70,795	319,146
Ohio	41,060	4,157,545
Oklahoma	39,030	398,245
Oregon	96,030	413,536
Pennsylvania	45,215	6,302,115
Philippine Islands, '00	114,356	8,000,000
Porto Rico, '99	3,550	953,243
Rhode Island	1,250	428,556
South Carolina	30,570	1,340,316
South Dakota	77,650	401,570
Tennessee	42,050	2,020,616
Texas	265,780	3,048,710
Tutuila	55	3,750
Utah	84,970	276,749
Vermont	9,565	343,641
Virginia	42,450	1,854,184
Washington	69,180	518,103
West Virginia	24,780	958,800
Wisconsin	56,040	2,069,042
Wyoming	97,890	92,531
United States, total	**3,741,074**	**85,268,941**
United States (without Alaska, Philippine Isds., etc.)	**3,025,600**	**76,085,794**

TWENTY-FIVE LARGEST CITIES IN THE WORLD

	Population
1. London, England, '01	4,536,063
Greater London, '01	6,580,616
2. New York, U.S., '00	3,437,202
3. Paris, France, '01	2,660,559
4. Canton, China, '97	2,500,000
5. Berlin, Germany, '00	1,888,326
6. Chicago, U.S., '00	1,698,575
7. Vienna, Austria-Hungary, '00	1,674,957
8. Tokio, Japan, '98	1,440,121
9. Philadelphia, U.S., '00	1,293,697
10. St. Petersburg, Russia, '97	1,267,023
11. Constantinople, Turkey, '01	1,136,000
12. Calcutta, India, '01	1,121,664
13. Moscow, Russia, '97	988,614
14. Tienstin, China, '97	950,000
15. Peking, China, '98	900,000
16. Buenos Aires, Argentina, '00	821,291
17. Hankau, China, '97	800,000
18. Bombay, India, '01	770,843
19. Glasgow, Scotland, '01	735,906
20. Hamburg, Germany, '00	705,738
21. Hangchau, China, '97	700,000
22. Liverpool, England, '01	684,947
23. Fuchau, China, '97	650,000
24. Warsaw, Russia, '97	638,209
25. St. Louis, U.S., '00	575,238

TWENTY-FIVE LARGEST CITIES IN THE UNITED STATES IN 1900

	Population
1. New York, N.Y.	3,437,202
2. Chicago, Ill.	1,698,575
3. Philadelphia, Pa.	1,293,697
4. St. Louis, Mo.	575,238
5. Boston, Mass	560,892
6. Baltimore, Md.	508,957
7. Cleveland, Ohio	381,768
8. Buffalo, N.Y.	352,387
9. San Francisco, Cal.	342,782
10. Cincinnati, Ohio	325,902
11. Pittsburg, Pa.	321,616
12. New Orleans, La	287,104
13. Detroit, Mich	285,704
14. Milwaukee, Wis.	285,315
15. Washington, D.C.	278,718
16. Newark, N.J.	246,070
17. Jersey City, N.J.	206,433
18. Louisville, Ky.	204,731
19. Minneapolis, Minn.	202,718
20. Providence, R.I.	175,597
21. Indianapolis, Ind.	169,164
22. Kansas City, Mo.	163,752
23. St. Paul, Minn.	163,065
24. Rochester, N.Y.	162,608
25. Denver, Colo.	133,859

CITIES OF THE UNITED STATES WITH 25,000 OR MORE INHABITANTS IN 1900; AND A FEW OTHERS, MOSTLY MENTIONED IN THE BOOK

(Cuban cities listed here)

	Population
Akron, Ohio	42,728
Albany, N.Y.	94,151
Albuquerque, N.M.	6,238
Allegheny, Pa.	129,896
Allentown, Pa.	35,416
Altoona, Pa.	38,973
Annapolis, Md.	8,402
Ashland, Wis.	13,074
Atchison, Kan.	15,722
Atlanta Ga.	89,872
Atlantic City, N.J.	27,838
Auburn, N.Y.	30,345
Augusta, Ga.	39,441
Augusta, Me.	11,683
Austin, Tex.	22,258
Baltimore, Md.	508,957
Bangor, Me.	21,850
Bath, Me.	10,477
Baton Rouge, La.	11,269
Bay City, Mich.	27,628
Bayonne, N.J.	32,722
Binghamton, N.Y.	39,647
Birmingham, Ala.	38,415
Bismarck, N.D.	3,319
Boise, Idaho	5,957
Boston, Mass.	560,892
Bridgeport, Conn.	70,996
Brockton, Mass.	40,063
Buffalo, N.Y.	352,387
Burlington, Vt.	18,640
Butte, Mont.	30,470
Cambridge, Mass.	91,886
Camden, N.J.	75,935
Canton, Ohio	30,667
Carson City, Nev.	2,100
Cedar Rapids, Iowa	25,656
Charleston, S.C.	55,807
Charleston, W.Va.	11,099
Charlotte, N.C.	18,091
Chattanooga, Tenn.	32,490
Chelsea, Mass.	34,072
Chester, Pa.	33,988
Cheyenne, Wyo.	14,087
Chicago, Ill.	1,698,575
Cincinnati, Ohio	325,902
Cleveland, Ohio	381,768
Colorado Springs, Colo.	21,085
Columbia, S.C.	21,108
Columbus, Ga.	17,614
Columbus, Ohio	125,560

	Population
Concord, N.H.	19,632
Council Bluffs, Iowa	25,802
Covington, Ky.	42,938
Cripple Creek, Colo.	10,147
Dallas, Tex.	42,638
Danville, Va.	16,520
Davenport, Iowa	35,254
Dayton, Ohio	85,333
Denver, Colo.	133,859
Des Moines, Iowa	62,139
Detroit, Mich.	285,704
Dover, Del.	3,329
Dubuque, Iowa	36,297
Duluth, Minn.	52,969
Durham, N.C.	6,679
Easton, Pa.	25,238
East St. Louis, Ill.	29,655
Elizabeth, N.J.	52,130
Elmira, N.Y.	35,672
El Paso, Tex.	15,906
Erie, Pa.	52,733
Evansville, Ind.	59,007
Fall River, Mass.	104,863
Fitchburg, Mass.	31,531
Fort Wayne, Ind.	45,115
Fort Worth, Tex.	26,688
Frankfort, Ky.	9,487
Galveston, Tex.	37,789
Gloucester, Mass.	26,121
Grand Rapids, Mich.	87,565
Greenville, S.C.	11,860
Guthrie, Ok.	10,006
Harrisburg, Pa.	50,167
Hartford, Conn.	79,850
Havana, Cuba, '99	235,981
Haverhill, Mass.	37,175
Helena, Mont.	10,770
Hoboken, N.J.	59,364
Holyoke, Mass.	45,712
Honolulu, Hawaiian Islands	39,306
Houston, Tex.	44,633
Indianapolis, Ind.	169,164
Jackson, Mich.	25,180
Jackson, Miss.	7,816
Jacksonville, Fla.	28,429
Jefferson City, Mo.	9,664
Jersey City, N.J.	206,433
Johnstown, Pa.	35,936
Joliet, Ill.	29,353
Joplin, Mo.	26,023

	Population
Juneau, Alaska	1,864
Kansas City, Kan.	51,418
Kansas City, Mo.	163,752
Key West, Fla.	17,114
Knoxville, Tenn.	32,637
La Crosse, Wis.	28,895
Lancaster, Pa.	41,459
Lansing, Mich.	16,485
Lawrence, Mass.	62,559
Leadville, Colo.	12,455
Lewiston, Me.	23,761
Lexington, Ky.	26,369
Lincoln, Neb.	40,169
Little Rock, Ark.	38,307
Los Angeles, Cal.	102,479
Louisville, Ky.	204,731
Lowell, Mass.	94,969
Lynchburg, Va.	18,891
Lynn, Mass.	68,513
Madison, Wis.	19,164
Malden, Mass.	33,664
Manchester, N.H.	56,987
Manila, Philippines, '01	350,000
Marquette, Mich.	10,058
Matanzas, Cuba, '99	45,282
McKeesport, Pa.	34,227
Memphis, Tenn.	102,320
Milwaukee, Wis.	285,315
Minneapolis, Minn.	202,718
Mobile, Ala.	38,469
Montgomery, Ala.	30,346
Montpelier, Vt.	6,266
Nashville, Tenn.	80,865
Newark, N.J.	246,070
New Bedford, Mass.	62,442
New Britain, Conn.	25,998
Newcastle, Pa.	28,339
New Haven, Conn.	108,027
New Orleans, La.	287,104
Newport, Ky.	28,301
Newton, Mass.	33,587
New York, N.Y.	3,437,202
Norfolk, Va.	46,624
Oakland, Cal.	66,960
Ogden, Utah	16,313
Oklahoma, Ok.	10,037
Olympia, Wash.	4,082
Omaha, Neb.	102,555
Oshkosh, Wis.	28,284
Passaic, N.J.	27,777
Paterson, N.J.	105,171
Pawtucket, R.I.	39,231
Peoria, Ill.	56,100
Philadelphia, Pa.	1,293,697
Phœnix, Ariz.	5,544

	Population
Pierre, S.D.	2,306
Pittsburg, Pa.	321,616
Plymouth, Mass.	9,562
Portland, Me.	50,145
Portland, Ore.	90,426
Ponce, Porto Rico, '99	27,952
Providence, R.I.	175,597
Pueblo, Colo.	28,157
Quincy, Ill.	36,252
Racine, Wis.	29,102
Raleigh, N.C.	13,643
Reading, Pa.	78,961
Richmond, Va.	85,050
Roanoke, Va.	21,445
Rochester, N.Y.	162,608
Rockford, Ill.	31,051
Rutland, Vt.	11,499
Sacramento, Cal.	29,282
Saginaw, Mich.	42,345
St. Joseph, Mo.	102,979
St. Louis, Mo.	575,238
St. Paul, Minn.	163,065
Salem, Mass.	35,956
Salem, Ore.	4,258
Salt Lake City, Utah	53,531
San Antonio, Tex.	53,321
San Francisco, Cal.	342,782
San Juan, Porto Rico, '99	32,048
Santa Fé, N.M.	5,603
Santiago, Cuba, '99	45,478
Savannah, Ga.	54,244
Schenectady, N.Y.	31,682
Scranton, Pa.	102,026
Seattle, Wash.	80,671
Sioux City, Iowa	33,111
Sioux Falls, S.D.	10,266
Sitka, Alaska	1,396
Somerville, Mass.	61,643
South Bend, Ind.	35,999
South Omaha, Neb.	26,001
Spokane, Wash.	36,848
Springfield, Ill.	34,159
Springfield, Mass.	62,059
Springfield, Ohio	38,253
Superior, Wis.	31,091
Syracuse, N.Y.	108,374
Tacoma, Wash.	37,714
Tallahassee, Fla.	2,981
Taunton, Mass.	31,036
Terre Haute, Ind.	36,673
Toledo, Ohio	131,822
Topeka, Kan.	33,608
Trenton, N.J.	73,307
Troy, N.Y.	60,651
Tucson, Ariz.	7,531

	Population
Utica, N.Y.	56,383
Virginia City, Nev.	2,695
Washington, D.C.	278,718
Waterbury, Conn.	45,859
Wheeling, W. Va.	38,878
Wichita, Kan.	24,671
Wilkes Barre, Pa.	51,721
Williamsport, Pa.	28,757
Wilmington, Del.	76,508
Woonsocket, R.I.	28,204
Worcester, Mass.	118,421
Yonkers, N.Y.	47,931
York, Pa.	33,705
Youngstown, Ohio	44,885

FOREIGN CITIES MENTIONED IN THE TEXT

	Population
Aachen, Germany, '00	735,235
Abbeokuta, Niger Terr., '97	150,000
Aberdeen, Scotland, '01	143,722
Adelaide, Australia, '01	160,691
Aden, Aden, '91	41,910
Adiz Abeba, Abyssinia, '01	10,000
Alexandria, Egypt, '97	319,766
Algiers, Algeria, '99	96,784
Amsterdam, Netherlands, '00	520,602
Antwerp, Belgium, '00	285,600
Archangel, Russia, '97	17,802
Arequipa, Peru, '01	35,000
Asuncion, Paraguay, '95	45,000
Athens, Greece, '96	111,486
Auckland, New Zealand, '01	34,213
Bagdad, Turkey in Asia, '00	145,000
Bahia, Brazil, '90	174,412
Baku, Russia, '97	112,253
Ballarat, Australia, '99	46,410
Bangkok, Siam, '96	250,000
Barcelona, Spain, '97	509,589
Barmen, Germany, '00	141,947
Basel, Switzerland, '01	111,009
Batavia, Java, '97	115,567
Belfast, Ireland, '01	348,876
Belgrade, Servia, '00	69,097
Benares, India, '01	203,095
Bendigo, Australia, '97	43,112
Berbera, Br. Somaliland, '97	30,000
Bergen, Norway, '01	72,251
Berlin, Germany, '00	1,888,326
Berne, Switzerland, '01	64,864
Bethany, Holy Land, '90	1,105
Bethlehem, Holy Land, '97	5,000
Bilbao, Spain, '97	74,093
Birmingham, England, '01	522,182
Bloemfontein, South Africa, '90	3,379
Bogota, Colombia, '86	120,000
Bologna, Italy, '01	152,009
Bombay, India, '01	770,843
Bordeaux, France, '01	257,471
Bradford, England, '01	279,809
Bremen, Germany, '00	163,418
Breslau, Germany, '00	422,738
Brindisi, Italy, '97	14,000
Brisbane, Australia, '01	119,428
Bristol, England, '01	328,842
Brussels, Belgium, '00	561,782
Bucharest, Roumania, '00	282,071
Budapest, Austria-Hungary, '00	732,322
Buenos Aires, Argentina, '00	821,291
Cadiz, Spain, '97	70,117
Cairo, Egypt, '97	570,062
Calcutta, India, '01	1,121,664
Callao, Peru, '01	16,000
Cambridge, England, '91	36,983
Canton, China, '97	2,500,000
Cape Town, Cape Colony, '91	51,251
Caracas, Venezuela, '94	72,429
Cardiff, Wales, '01	164,420
Cartagena, Colombia, '86	20,000
Cartagena, Spain, '97	86,245
Catania, Italy, '01	149,694
Cayenne, French Guiana, '97	12,351
Cettinge, Montenegro, '97	2,920
Chemnitz, Germany, '00	206,584
Chengtu, China, '96	250,000
Christchurch, New Zealand, '01	17,538
Christiania, Norway, '98	200,000
Ciudad Bolivar, Venezuela, '91	11,686
Cologne, Germany, '00	372,229
Colon, Colombia, '97	3,000
Constantinople, Turkey, '01	1,125,000
Copenhagen, Denmark, '01	378,235
Cordoba, Argentina, '01	50,000
Cordoba, Spain, '97	57,313
Cork, Ireland, '01	99,693
Cuzco, Peru, '96	20,000
Damascus, Turkey in Asia, '00	140,500
Danzig, Germany, '00	140,539

	Population
Dawson, Canada, '01	9,142
Delhi, India, '01	208,385
Dover, England, '91	33,418
Dresden, Germany, '00	395,349
Dublin, Ireland, '01	286,328
Dundee, Scotland, '01	160,871
Dunedin, New Zealand, '01	24,879
Durban, Natal, '00	48,410
Edinburgh, Scotland, '01	316,479
Elberfeld, Germany, '09	156,937
Essen, Germany, '00	118,863
Fachau, China, '98	400,000
Fiume, Austria-Hungary, '00	38,955
Fez, Morocco, '89	140,000
Florence, Italy, '01	204,950
Frankfort, Germany, '00	288,489
Fredericton, Canada, '01	7,117
Freetown, Sierra Leone, '91	30,033
Fuchau, China, '97	650,000
Geneva, Switzerland, '01	105,139
Genoa, Italy, '01	234,800
Georgetown, British Guiana, '01	53,176
Ghent, Belgium, '00	160,949
Gibraltar, Spanish Pen., '00	27,460
Glasgow, Scotland, '01	735,906
Gothenburg, Sweden, '00	130,619
Grenada, Spain, '97	75,054
Grimsby, England, '01	63,138
Guatemala, Guatemala, '93	72,102
Guayaquil, Ecuador, '98	50,000
Hague, The, Netherlands, '00	212,211
Halifax, Canada, '00	40,787
Halle, Germany, '00	156,611
Hamburg, Germany, '00	705,738
Hamilton, Canada, '01	52,550
Hammerfest, Norway, '91	2,239
Hangchau, China, '97	700,000
Hankau, China, '97	800,000
Hanover, Germany, '00	235,666
Havre, France, '01	129,014
Hebron, Holy Land, '97	10,000
Helsingfors, Russia, '96	77,484
Hobart, Tasmania, '01	24,654
Hongkong, China, '01	297,212
Hue, French Ind. China, '97	30,000
Hull, England, '01	240,618
Hyderabad, India, '01	446,291
Iquique, Chile, '00	42,440
Irkutsk, Siberia, '96	51,434
Jerusalem, Holy Land, '01	42,000
Johannesburg, Transvaal, '96	102,078
Joppa, Holy Land, '97	23,000
Kabul, Afghanistan, '97	70,000
Khartum, Egyptian Sudan, '98	25,000
Khelat, Baluchistan, '97	14,000

	Population
Kiev, Russia, '97	247,432
Kimberley, Cape Colony, '91	28,718
Kingston, Jamaica, '91	46,542
Kioto, Japan, '98	353,139
Krefeld, Germany, '00	106,928
Kumassi, Ashanti, '97	18,000
La Guaira, Venezuela, '97	8,000
La Paz, Bolivia, '00	57,000
La Plata, Argentina, '01	61,000
Lassa, Tibet, '97	25,000
Leeds, England, '98	428,953
Leghorn, Italy, '00	98,505
Leicester, England, '01	211,574
Leipzig, Germany, '00	455,089
Leith, Scotland, '01	76,667
Libreville, French Kongo, '97	3,000
Liege, Belgium, '00	173,708
Lille, France, '01	215,431
Lima, Peru, '91	103,956
Limoges, France, '01	83,569
Lisbon, Portugal, '00	357,000
Liverpool, England, '01	684,947
Loanda, Port. W. Africa, '97	14,000
Lodz, Russia, '97	315,209
London, Canada, '01	37,983
London, England, '01	4,536,063
London, Greater, '01	6,580,616
Lourenço Marquez, Port. E. Af., '00	6,630
Lucerne, Switzerland, '01	29,633
Lucknow, India, '01	263,951
Lyon, France, '96	458,145
Madras, India, '01	509,397
Madrid, Spain, '97	512,150
Magdeburg, Germany, '00	229,663
Malaga, Spain, '97	125,579
Manãos, Brazil, '93	20,000
Manchester, England, '97	543,969
Mandalay, Burma, '01	182,498
Marseille, France, '01	494,709
Maskat, Oman, '97	40,000
Mecca, Turkey, '01	60,000
Melbourne, Australia, '01	493,956
Messina, Italy, '01	149,823
Metz, Germany, '00	58,462
Mexico City, Mexico, '95	344,377
Milan, Italy, '01	491,460
Mocha, Turkey in Asia, '97	5,000
Mombasa, Br. E. Africa, '01	27,000
Monrovia, Liberia, '97	5,000
Montevideo, Uruguay, '97	249,251
Montreal, Canada, '01	266,826
Morocco, Morocco, '97	50,000
Moscow, Russia, '97	988,614
Munich, Germany, '00	499,959
Nagoya, Japan, '98	244,145

	Population
Naples, Italy, '01	563,731
Nazareth, Holy Land, '97	7,500
Newcastle, England, '01	214,803
Nice, France, '01	125,099
Nijni Novgorod, Russia, '97	95,124
Nottingham, England, '99	239,753
Nuremberg, Germany, '00	261,022
Odessa, Russia, '97	405,041
Oporto, Portugal, '00	172,421
Osaka, Japan, '98	821,235
Ottawa, Canada, '01	59,902
Oxford, England, '01	49,413
Palermo, Italy, '01	310,352
Panama, Colombia, '86	30,000
Para, Brazil, '92	65,000
Paramaribo, Dutch Guiana, '99	31,427
Paris, France, '01	2,660,559
Peking, China, '98	900,000
Pernambuco, Brazil, '90	111,556
Perth, West Australia, '97	36,199
Pietermaritzburg, Natal, '01	28,500
Piraeus, Greece, '96	42,169
Pisa, Italy, '01	61,279
Port Arthur, Russia in Asia	
Port au Prince, Haiti, '97	60,000
Port Said, Egypt, '97	42,095
Portsmouth, England, '01	189,160
Posen, Germany, '00	117,014
Potsdam, Germany, '00	59,814
Prague, Austria-Hungary, '00	201,589
Pretoria, Transvaal, '96	10,000
Pueblo, Mexico, '95	91,917
Quebec, Canada, '01	68,834
Queenstown, Ireland, '91	9,082
Quito, Ecuador, '97	80,000
Rangoon, Burma, '01	232,326
Reims, France, '01	107,773
Riga, Russia, '97	282,943
Rio de Janeiro, Brazil, '90	522,651
Rome, Italy, '01	463,000
Rosario, Argentina, '01	112,461
Rotterdam, Netherlands, '01	332,185
Roubaix, France, '01	124,660
Rouen, France, '01	115,914
St. Etienne, France, '01	146,671
St. John, Canada, '01	40,711
St. John's, Newfoundland, '99	29,007
St. Petersburg, Russia, '97	1,267,023
Samarkand, Russian Turkestan, '97	54,900
San Luis Potosi, Mexico, '95	69,676
San Salvador, Salvador, '01	59,540
Santiago, Chile, '00	291,725
Santos, Brazil, '97	15,000
São Paulo, Brazil, '92	100,000
Seoul, Korea, '01	193,082
Seville, Spain, '97	146,205
Sèvres, France, '91	6,902
Shanghai, China, '00	620,000
Sheffield, England, '01	380,717
Siangtan, China, '98	1,000,000
Singanfu, China, '98	600,000
Singapore, Straits Settlements, '01	228,555
Smyrna, Turkey, '85	200,000
Sofia, Bulgaria, '00	67,920
Southampton, England, '01	104,911
Stettin, Germany, '00	210,680
Stockholm, Sweden, '00	300,624
Strassburg, Germany, '00	150,268
Stuttgart, Germany, '00	176,318
Suchau, China, '00	500,000
Sucre, Bolivia, '00	20,900
Suez, Egypt, '82	10,919
Swansea, Wales, '01	94,514
Sydney, Australia, '00	451,000
Tananarivo, Madagascar, '97	90,000
Tangier, Morocco, '89	30,000
Tashkend, Russian Turkestan, '97	156,414
Teheran, Persia, '97	210,000
Tiberias, Holy Land, '97	3,000
Tientsin, China, '97	950,000
Tiflis, Russia, '97	160,645
Timbukto, Sudan, '97	20,000
Tokio, Japan, '98	1,440,121
Toronto, Canada, '01	207,971
Trebizond, Turkey in Asia, '97	35,000
Trieste, Austria-Hungary, '00	134,143
Tripoli, Tripoli, '85	30,000
Trondhjem, Norway, '00	38,180
Tunis, Tunis, '00	170,000
Turin, Italy, '01	335,639
Upernivik, Greenland, '70	700
Valencia, Spain, '97	204,768
Valparaiso, Chile, '00	185,674
Vancouver, Canada, '91	26,196
Venice, Italy, '01	151,841
Vera Cruz, Mexico, '95	88,993
Verseilles, France, '01	54,081
Victoria, Canada, '01	20,821
Vienna, Austria-Hungary, '00	1,674,957
Vladivostok, Siberia, '96	43,843
Warsaw, Russia, '97	688,209
Wellington, New Zealand, '01	43,638
West Ham, England, '01	267,308
Winnipeg, Canada, '01	42,336
Wuchang, China, '98	300,000
Yarmouth, Canada, '01	6,480
Yokoba, Niger Terr., '97	50,000
Yokohama, Japan, '98	193,762
Zanzibar (British), '97	30,000
Zurich, Switzerland, '01	152,942

ELEVATION OF SOME PLATEAUS AND MOUNTAIN PEAKS

	Feet
Abyssinian Plateau	5–7,000
Aconcagua, Andes, Argentina (*highest in South America*)	22,860
Ararat, Turkey in Asia	17,325
Mt. Blanc, Alps, France (*highest in Alps*)	15,781
Bolivian Plateau	10–13,000
Brazilian Plateau	2–2,500
Chimborazo, Andes, Ecuador	20,498
Cotopaxi, Andes, Ecuador	19,613
Elbruz, Caucasus, Russia	18,200
Etna, Sicily	10,835
Everest, Himalayas, Nepal (*highest known in world*)	29,002
Frémont Peak, Rocky Mts., Wy.	13,790
Fujiyama, Japan	12,365
Hecla, Iceland	5,110
Kenia, Africa	18,620
Kilimanjaro, Africa (*highest known in Africa*)	19,780
Kosciusko, Australia (*highest in Australia*)	7,336
Logan, Coast Ranges, Canada (*highest known in Canada*)	19,539
McKinley, Alaska (*highest known in North America*)	20,464
Mauna Kea, Hawaiian Islands	13,805
Mauna Loa, Hawaiian Islands	13,675
Mexican Plateau	5–6,000
Mitchell, Appalachian Mts., N.C., (*highest in East'n U.S.*)	6,711
Orizaba, Mexico (*highest in Mexico*)	18,314
Pikes Peak, Rocky Mts., Colorado,	14,108
Popocatapetl, Mexico	17,798
Rainier, Cascade Mts., Washington,	14,526
St. Elias, Alaska	18,024
Shasta, Cascade Mts., California	14,380
Tibet Plateau	10–15,000
United States, Western Plateau	5–6,000
Vesuvius, Italy	4,200
Washington, White Mts, N.H. (*highest in Northeastern U.S.*)	6,293
Whitney, Sierra Nevada, California (*highest in Western U.S.*)	14,898

SOME OF THE LARGEST RIVERS OF THE WORLD

	Length in Miles	Basin Area Sq. Miles	Ocean
North America			
Colorado	2,000	225,049	Pacific
Columbia	1,400	216,537	Pacific
Mackenzie	2,000	590,000	Arctic
Missouri	3,000	527,155	Atlantic
Missouri-Mississippi	4,300	1,257,000	Atlantic
Nelson	1,732	432,000	Atlantic
Rio Grande	1,800	240,000	Atlantic
St. Lawrence	2,200	530,000	Atlantic
Yukon	2,000	440,000	Pacific
South America			
Amazon	3,300	2,500,000	Atlantic
Orinoco	1,350	366,000	Atlantic
Plata	2,580	1,200,000	Atlantic
São Francisco	1,800	200,000	Atlantic
Europe			
Danube	1,770	300,000	Atlantic
Dnieper	1,200	242,000	Atlantic
Dwina	1,000	140,000	Arctic
Elbe	725	55,000	Atlantic
Po	400	27,000	Atlantic
Rhine	800	75,000	Atlantic
Rhone	500	38,000	Atlantic
Europe			
Seine	482	30,300	Atlantic
Thames	228	6,100	Atlantic
Volga	2,400	563,300	Caspian
Asia			
Amur	2,800	520,000	Pacific
Brahmaputra	1,800	425,000	Indian
Ganges	1,500	440,000	Indian
Hoang-ho	2,700	570,000	Pacific
Indus	1,800	372,700	Indian
Irawadi	1,500	158,000	Indian
Lena	2,800	950,000	Arctic
Mekong	2,800	280,000	Pacific
Ob	3,200	1,000,000	Arctic
Yangtse-kiang	3,200	548,000	Pacific
Yenisei	3,000	1,500,000	Arctic
Africa			
Kongo	2,900	1,200,000	Atlantic
Niger	2,600	563,300	Atlantic
Nile	3,400	1,273,000	Atlantic
Zambezi	1,500	600,000	Indian
Australia			
Darling	1,100	——	Indian
Murray	1,000	270,000	Indian

SOME OF THE LARGE LAKES OF THE WORLD

	Area in Square Miles	Elevation in Feet	Greatest Depth in Feet
Aral Sea	26,900	160	225
Baikal	12,500	1,312	4,550
Balkash	7,800	780	70
Caspian	169,000	−85[1]	2,400
Chad, variable with season	10,000 and often more	800–900	12
Dead Sea	370	−1,310[1]	1,330
Erie	9,990	573	210
Great Bear Lake	11,200	200	—
Great Salt Lake	2,360	4,218	30–50
Great Slave Lake	10,100	—	over 650
Huron	22,322	582	750
Ladoga	7,000	60	730
Michigan	21,729	582	870
Nicaragua	3,600	110	83
Nyassa	14,000	1,500	600+
Ontario	7,104	247	738
Superior	30,829	602	1,008
Tanganyika	12,650	2,800	2,100
Titicaca	3,300	12,875	700
Victoria Nyanza	30,000	4,000	590+
Winnipeg	9,400	710	70

[1] *Below* sea level

DISTRIBUTION OF MANKIND

Mongolians	**540,000,000**
China	380,000,000
Japan and Korea	55,000,000
Indo-China	35,000,000
Malaysia	30,000,000
Other Mongolians	40,000,000
Caucasians	**770,000,000**
Europe	355,000,000
Asia	280,000,000
America	115,000,000
Africa	15,000,000
Australasia	5,000,000
Ethiopians	**173,000,000**
Africa and Madagascar	153,000,000
North and South America	20,000,000
American Indians	**22,170,000**
Mexico	8,765,000
Brazil	4,200,000
Colombia	3,150,000
Peru	2,700,000
Bolivia, Guatemala, and Venezuela	4,225,000
United States	250,000
Canada	100,000

RELIGIONS OF MANKIND

Buddhists and Brahmins	650,000,000
Christians	440,000,000
Jews	8,000,000
Mohammedans	180,000,000
Pagans and others	250,000,000

INDEX AND PRONOUNCING VOCABULARY

KEY TO PRONUNCIATION

a, as in *fat;* *ā*, as in *fate;* *ä*, as in *far;* *â*, as in *fall;* *e*, as in *pen;* *ē*, as in *mete;* *ė*, as in *her;* *i*, as in *pin;* *ī*, as in *pine;* *o*, as in *not;* *ō*, as in *note;* *ö*, as in *move;* *u*, as in *tub;* *ū*, as in *mute;* *u̇*, as in *pull;* *g*, as in *get;* *ġ*, as in *gem;* *c*, as in *cat;* *ç*, as in *cent.*

A double dot under a, e, or o (a̤, e̤, o̤) indicates that its sound is shortened to that of *u* in *but.*

Italicized letters are silent. The sign ′ tells upon which syllable the accent is placed. The numbers refer to pages in the book excepting where Fig. is before them, when they refer to figures in the book.

Ab-ys-sin′-i-a̤, 416, 455.
Abyssinian Mountains, 433.
Ä-crop′-ō-lis, 347, 349.
Ad′-e-lā*i*de, 477.
Ä′-den, 374.
Ad-i-ron′-dacks, 489.
Ad-ri-at′-ic, 323, 328, 338, 339.
Ægean (ē-jē′-an) Sea, 338.
Äf-*gh*an-is-tän′, 376.
Af′-ri-ca̤, 415–460.
Agriculture, 498–504.
Al-a̤-bä′-ma̤, 369, 502, 505, 507.
A-las′-ka̤, 515.
Âl′-ba̤-ny (ni), 505, 512.
A-le*u*̃′-tian (shun) Islands, 515.
Al-ex-an′-dri-a̤, 435, 438.
Al-ġē′-ri-a̤, 427, **439–443.**
Al-giers′ (jērz), 443.
Allegheny (al′-ē-gā-ni), 505.
Alps, 301, 302, 311–313, 322, 356, 382.
Ä-mir′ (mēr), 377.
Antarctic (an-tärk′-tik), 548.
An-til′-les (lēz), 522.
Ap-*p*a̤-lach′-i-a̤n Mts., 463, 489.
Appalachian Plateau, 489.
A̤-rā′-bi-a̤, 361, 372–374.
Ar′-a̤l Sea, 359.
Ar′-a-rat, 366.
Ärc′-tic Ocean, 548.
Är-ġen-ti′-na̤ (tē), 524, 525, 526, 527.
Ar-i-zō′-na̤, 430, 431, 507, 509, 514.
Är′-kan-sâs (saw), Fig. 360.
Är-mē′-ni-ans, 368, 369.
Ar′-ya̤ns, 387.
As-çen′-sion (shọn) Island, 458.
Ash′-la̤nd, 506.
Asia (ā′-shi̇ä), 353, 414.
Asia Minor, 367, 383, 387.
At-lan′-ta̤, 493, 501, 502, 507, 513.
At-lan′-tic Ocean, 548.
At′-la̤s Mountains, 415, 427, 439.
Âu*c*k′-land, 480.
Âu-gus′-ta̤, Ga., 502.
Âus-tra̤-lā′-sia (sha), 480, 525, 527, 529, 537, 538.

Âus-trā′-li-ą, **461–477**, 479, 480, 524, 526, 530.
Âus′-tri-ą, **326–337**, 525.
Âus′-tri-ą Hun′-gą-ry (ray), 527, 528.
Az′-tecs (teks), 519.

Babylon (bab′-i-lǫn), 372.
Bäg-dăd′, 372.
Bą-hā′-mąs, 522.
Baikal (bī′-käl), 379.
Bal-*l*a-rat′, 477.
Bâl′-ti-mōr*e*, 495, 504, 505, 512.
Bal-u-chis-tän′ (ö), 382, 390.
Bang-kok′, 394, 395.
Ban′-gor, 494.
Bär′-bą-ry (ri) States, 427, **439–443**.
Bą-tā′-vi-ą, 482.
Bath, 494.
Bay City, 495.
Bed′-ö-ins (inz), 426, 436.
Beet Sugar, 534.
Bel′-gi-um, 456, 524, 537.
Belize (bė-lēz′), 520.
Belt of Calms, 358.
Be-nä′-res (rez), 392.
Ben′-di-gō, 477.
Bēn′-ue (wē) River, 452.
Bėr-bėrs (bėrz), 427, 440.
Bē′-ring Straits, 353.
Bėr-mū′-dąs, 522.
Beth′-ą-ny (ni), 368.
Beth′-lē-*h*ęm, 370, 372.
Bey (bā), 440.
Bhutan (bhö-tän′), 390.
Bir′-ming-ham (bėr), Ala., 507.
Bis′-krä, 427.
Black Race, 422.
Black Sea, 366.
Blöem′-fon-tein, Fig. 297.
Boers (börs), 444.
Boise (boi′-ze), 362.
Bō-k*h*ä′-rą, 378, 379.
Bō-liv′-i-ą, 529.
Bom-bā*y*′, 385, 391, 393.
Boo′-me-rang, 468, 469.
Bor′-nē-ō, 481.
Bos′-tǫn, 495, 510, 512.
Bräh′-mąn-ism (izm), 387.
Bräh-mą-pu′-trą (poo), 382.
Bräh′-mins (minz), 365, 558.
Brą-zil′, 523, 524, 534, 537, 538.
Brid*ġ*e′-pōrt, 507.
Bris′-bāne, Fig. 338.
Brit′-ish Af′-ri-cą, 457.
Brit′-ish Cō-lum′-bi-ą (bē-ą), 517.
Brit′-ish Empire, 389, 470, 477, 523.
Brit′-ish Hon-du′-rąs (dö), 520.
Brit′-ish Ĭsles, 389, 406, 409, 471, 479, 525.
Brock′-tǫn, 501, 510.
Buddhism (bö′-dizm), 365, 387, 394, 395, 409, 558.
Buf′-fą-lō, 505, 506, 511, 512.
Bur′-ling-tǫn (bėr), 494.
Burma (bėr′-mą), 362, 390, 394.
Butte (būt), 507.

Cairo (kī′-rō), 426, 430, 433, 437, 438.
Cal-cut′-*t*ą, 384, 391, 393.
Cal-i-for′-ni-ą, 406, 430, 440, 468, 469, 475, 481, 491, 497, 498, 509.
Cal′-ū-met, 507.
Cām′-brid*ġ*e, 511.
Cam′-den, 505.
Can′-ą-dą, 357, 390, 470, 479, 495, 515, **516–518**, 524, 525, 530, 537, 538.
Ca-nā′-ry (ri) Islands, 458.
Can-ton′, 397, 404.
Cāp*e* Breton (brit′-ǫn) Island, 518.
Cāp*e* Colony, 426, 444–451, 524.
Cāp*e* of Good Hope, 425.
Cāp*e* Town, 426, 437, 444, 450, 451.
Cāp*e* Vėrd*e* Islands, 458.
Caravan, 428–430.

Car-ib-bē′-an Sea, 522.
Cas-cāde′ Ranges, 359, 491.
Cas′-pi-an Sea, 359, 375, 530.
Cattle Ranching, 499, 517.
Celebes (sel′-e-bēz), 481.
Cen′-tral Amer′-i-ca, 520, 521, 537.
Central States, 491, 495, 500, 501, 507, 509.
Ceylon (sē-lon′), 357, 363, 382, 393.
Chäd, Lake, 418, 455.
Charles′-ton (charlz), 494, 509.
Charlotte (shär′-lot), 502.
Chat-ta-noo′-ga, 494, 507, 513.
Chi-cä′-gō (shē), 404, 495, 500, 506, 511, 512, 513.
Chile (chil′-ā), 529.
Chī′-na, 355, 362, 364, **396–405**, 410, 524, 526, 535, 536, 537.
Chī-nese′ (nēz) Empire, 523, **396–405**.
Christian Religion, 370, 558.
Cin-cin-nä′-ti, 500, 513.
Clēve′-land, 506, 512.
Coal, 487, 504, 505, 506, 518, 527, 528.
Coastal Plains, 489.
Coast Ranges, 491.
Coffee, 516, 519, 521, 533, 534.
Cold Pole, 359.
Col-ō-rä′-dō, 509.
Col-ō-rä′-dō Can′-yon, 431.
Cō-lum′-bi-a (bē-a), District of, 514.
Cō-lum′-bi-a (bē-a) River, 495.
Cō-lum′-bi-a (bē-a), S.C., 502.
Cō-lum′-bus, Ga., 502.
Cō-lum′-bus, Ohio, 501, 512.
Commerce, 511–514, 530–539.
Con-nect′-i-cut, 508.
Continental climate, 358.
Copper, 506, 507, 518.
Copts, 436.
Coral Reefs, 481, 482, 483, 493.
Corn, 495, 497, 500, 519, 524.
Cos′sacks, 362.
Costa Rica (kos′-tä rī′-ka), Fig. 399.
Cotton, 501, 519, 525, 526.
Cotton Manufacturing, 502.
Crip′-ple Crēek, 508.
Cū′-ba, 502, 515, 524, 534, 535.
Cyclonic Storms, 493.

Dal′-las, 500.
Da-mas′-cus, 370, 371.
Dan′-ville, 503.
Där′-ling River, 463.
Dāy′-ton, 501.
Dead Sea, 369, 371.
Del-a-gō′-a Bay, 451.
Del′-a-ware, 505.
Del′-hī, 387.
Delta, 431, 432.
Den′-vėr, 508, 512.
Deserts, 358, 427, 465.
Des Moines (de-moin′), 501.
De-troit′, 506, 512.
Dī′-a-monds, 448.
Dubuque (dö-būk′), Fig. 361.
Duluth (dö-looth′), 480, 495, 506, 512.
Durban (dėr′-ban), 451.
Durh′-am, 503.
Dutch, 481, 482.

Earthquakes, 355.
East In′-dies (diz), 397, 403, **480–482**, 537, 538.
Ē′-gypt, 369, 370, 424, 427, **430–439**, 526.
Ē-gyp′-tian (shan) Su-dän′ (sö), 427, 430, 455.
England (ing′-land), 470, 471, 473, 476, 479, 524, 528.
Ē′-rie Canal, 511.
Ē′-rie, Pa., 505.
Eritrea (ā-rē-trā′-ä), 456.
Es′-ki-mōs (mōz), 378, 518.
Ē-thi-ō′-pi-an, 558.
Ē-thi-ō′-pi-an Zone, 422.
Euphrates (ū-frā′-tēz), 363, 368, 372.

Ev-ạns-vil*le* (anz), 500.
Ev′-ėr-est, Mt., 355.
Exports, 533–539.

Fâl*l* Line, 489.
Fâl*l* River, 503, 510.
Fel′-*l*ạ*h*, 436, 438.
Fez, 443.
Fiji (fē′-jē), 483, 484.
Fishing, 495, 517.
Flor′-i-dạ, 489, 509.
For-mō′-sạ, 405, 406.
Fort Wo͝rth, 500.
France (fräns), 391, 440, 441, 524, 525, 527, 528, 531–533, 535–539.
Fred-ėr-ic-to͝n, 517.
French In′-dō Chī′-nạ, 394, 395.
Fruits, 503, 504, 517, 519, 522.
Fuchau (fō-chou′), 402.
Fu-ji-yä′-mạ (foo), 354.

Gal′-i-lē*e*, Sea of, 369, 371.
Gal′-ves-to͝n, Fig. 360.
Gam′-bi-ạ, Fig. 297.
Ganges (gan′-jēz), 382, 388, 391, 392.
Ġeor′-ġi-ạ, 494, 502.
Ġer′-mạn Af′-ri-cạ, 457.
Ġer′-mạ-ny (nä), 523, 524, 525, 527, 528, 531, 532, 533, 537, 538.
Gey′-sėrs (gi), 492.
Glacial Period, 487, 488.
Glou*ces*′-tėr, 495.
Gobi (gō′-bē), 396.
Gold, 508, 509, 515, 517, 530.
Government, 514.
Grand Canal, 401.
Grand Rap′-ids, 495.
Grazing, 497, 519.
Greāt Barrier Reef, 463.
Great Basin, 491.
Great Britain (brit′-n), 377, 439, 447, 527, 528, 531, 533, 537, 538.
Great Lakes, 491, 500, 504, 511, 512, 518.
Great Plains, 490.
Great Wall, China, 398, 399.
Grēeks, 368.
Grēen′-lạnd, 518.
Green Mountains, 488.
Grēen′-vil*le*, 502.
Guam (gwäm), 516.
Gu*â*-tē-mä′-lä, 521, 534.
Guinea (gin′-i), 456.
Guth′-ri*e*, Fig. 360.

Haiti (hā′-ti), 521, 534.
Hal′-i-fax, 517.
Hän-kau′ (kou), 404.
Har′-*r*is-burg (bėrg), 505.
Härt′-fo͝rd, 507.
Hạ-van′-ạ, 515.
Hawaiian (hä-wä′-yạn) Islands, 484, 502, **515**, 524, 534, 535, 537
Hay, 497.
Heathens (hē*a*′-thẹns), 558.
Hē′-bro͝n, 369.
Him-ạ-lā′-yạ, 355, 382, 385, 390.
Hin′-dus (dös), 385, 389, 391, 392.
Hō-ang-hō′, 397, 398.
Hō′-bart, Fig. 338.
Hō′-bō-ke͝n, 505, 514.
Hogs, 500, 517.
Hol′-*l*ạnd, 426, 481.
Holy Land, 368, 369–371.
Hōl′-yō*k*e, 494.
Hon-du′-rạs (dö), Fig. 399.
Hong′-kong, 404.
Hō-nō-lu′-lu (loo′-loo), Fig. 338.
Horses, 498, 499, 517.
Ho͝us′-to͝n, Fig. 360.
Hō′-vạs, 458.
Hū′-ro͝n, Fig. 357.
Hur′-*r*i-cān*e*, 397.

Ī′-dạ-hō, 509.
Il-*l*i-nois′, 496, 498, 500, 505, 506.
Iloilo (ē-lō-ē′-lō), Fig. 338.
Imports, 533–539.
In′-di-ạ, 359, 362, 364, 372, 373, 377, **381–393**, 524, 525, 526, 535, 536.

In′-di-ạn Ocean, 548.
In-di-an′-ạ, 498, 506, 509.
In-di-ạn-ap′-ō-lis, 380, 501, 512.
In′-di-ạns, American, 558.
Indian Territory, 514.
In′-dō Chī′-nạ, 393.
In′-dus, 382, 392.
Ī′-ō-wạ, 497, 498, 499, 500, 505.
Iron Ore, 504–506, 518, 528.
Iron Manufacturing, 504, 518, 528.
Ir-ạ-wa′-di, 390.
Ireland (ī′-er-lạnd), 462.
Ir-kutsk′ (kötsk), 381.
It′-ạ-ly (li), 524, 525, 535, 536, 537.

Jamaica (jạ-mā′-kạ), 521.
Ja-pan′, 354, 364, 366, **405–412**, 518, 524, 535, 536, 537, 538.
Jap-ạ-nēse′ Current, 406, 515.
Jä′-vạ, 481, 482, 534, 535.
Jersey (jėr′-zi) City, 505, 514.
Je-ru′-sạ-lem (rö), 371, 373.
Jews, 369, 558.
Jin-rik′-i-sha, 411.
Johannesburg (yō-hän′-es-bėrg), 447, 451.
Jop′-lin, 508.
Jop′-pạ, 371.
Jor′-dạn River, 369.
Juneau (jö-nō′), 515.
Jungles (jung′-gls), 385.

Kä-bul′ (böl), 377.
Kä-me-run′ (rön), Fig. 297.
Kan′-sas (zạs), 498, 499, 509.
Kan′-sas (zạs) City, 500.
Kenia (kā′-nē-ạ), Mt., Fig. 297.
Ken-tuck′-y, Fig. 361.
Khedive (ke-dēv′), 436, 438.
Khiva (chē′-vạ), 378.
Kil-i män-jä′-rō (ē), 416.
Kim′-bėr-ley (li), 448, 449, 451.
Ki-ō′-tō (kē), 412.
Kir-ghīz′ Steppes, 379.
Klon′-dīke, 515, 517.
Knox′-ville, 507.
Kon′-gō River, 417, 418, 452, 453.
Kon′-gō State, 456.
Kō-rē′-ạ, 405, 526.
Ku′-rile Islands (kö), 406.

Lạ Crosse, 495.
Läs′-sä, 397.
Lawrence (lâ′-rėns), 503.
Lead′-ville, 507, 508.
Lē′-ō-pōld-ville, 417.
Lew′-is-tọn (lū), 503.
Lī-bē′-ri-ạ, 456.
Lib′-y-ạn (i) Desert, 427, 430.
Little Rock, 494.
Los An′-ge-les, 504, 513.
Louisiana (lö-ē-zi-an′-ạ), 502, 503.
Louisville (lö′-is-vil), 500, 503, 513.
Lourenço Marquez (lō-ran′-sọ mär′-kes), 451.
Lōw′-ell, 503.
Luck′-now (nou), 392.
Lumbering, 493, 494, 517.
Lu-zon′ (lö), Fig. 338.
Lynchburg (linch′-bėrg), 503.
Lynn (lin), 501.

Mạc-ken′-zie, Fig. 398.
Mad-ạ-gas′-cär, 458.
Mä-dēi′-rạ Islands, 458.
Mạ-dras′, 393.
Māine, 494, 502.
Mā-lāy′ Peninsula, 393.
Mā-lāys′, 394, 395, 464, 481.
Man′-ches-tėr, N.H., 502.
Man′-dạ-lāy, 390.
Mạ-nil′-ạ, 482.
Man-i-tō-ba′, 517.
Manufacturing, 500–511, 518, 530, 531. (Also many of the countries.)
Mä-ō′-ris (riz), 478.
Marquette (mär-ket′), 506.
Maryland (mer′-i-lạnd), 505.
Mas-kat′, 374.

Mas-sa-chū′-setts, 502.
Mauritius (mâ-rish′-ius), 459.
Mec′-ca, 374.
Med′-i-tėr-rā′-nē-an, 366, 367, 419, 435.
Me-kong′ (mā), 395.
Mel′-bourne (bėrn), 476.
Mem′-phis (fis), 494, 501.
Merchant Marine, 532.
Mes-ō-pō-tā′-mi-a, 368, 372.
Mex′-i-cō, 488, 519, 520, 521, 524, 529, 537, 538.
Mex′-i-cō City, 519, 520.
Mich′-i-gan (mish), 507, 509.
Mi-kä′-dō, 407, 408, 411.
Milk, 499.
Mil-wâu′-kee, 500, 503, 512.
Min-dä-nä′-ō (mēn), Fig. 338.
Min-dō′-rō (mēn), Fig. 338.
Mining, 504–509.
Min-ne-ap′-ō-lis, 495, 500, 512, 517.
Min-ne-sō′-ta, 358, 493, 498.
Mis-sis-sip′-pi, River, 417, 463, 491.
Mis-sis-sip′-pi, State, 502.
Mis-söu′-ri, 495, 500.
Mō-bile′ (bēl), 494.
Mō′-cha, 374.
Mō-ham′-me-dans, 365, 374, 387, 558.
Mō-luc′-ca Isds., Fig. 338.
Mongol (mong′-gol), 387.
Mon-gō′-li-a, 396.
Mon-gō′-li-ans, 390, 398, 407, 558.
Mon-rō′-vi-a, 456.
Mon-söon′, 359, 382, 397, 465.
Mon-tä′-na, 498, 509, 517.
Mont Blanc, 382.
Mont-gom′-ery, 494.
Mont-rē-âl′, 512, 517, 518.
Mō-roc′-cō, 427, 428, **439–443**.
Mur′-rāy River, 463, 474.

Nä-gō′-yä, 412.
Nash′-ville, 494, 500, 513.
Nä-täl′, 445.
Natural Gas, 506, 507.
Nė-bras′-ka, 495.
Negroes, 422, 423, 454.
Ne-pâl′, 390.
Neth′-ėr-lands, 482, 532, 537, 538.
Nė-vä′-da, 509.
New′-ärk, 505.
New Bed′-ford, 503.
New Bruns′-wick, 517.
New Cal-e-dō′-ni-a, 484.
New Eng′-land (ing) States, 380, 481, 488, 489, 502, 507, 509.
New′-found-land, 479, 516, 517.
New Guinea (gin′-i), 480, 481.
New Hamp′-shire, 502.
New Hā′-ven, 507.
New Jersey (jėr′-zi), 505.
New Mex′-i-cō, 498, 514.
New Or′-le-ans, 501, 503, 513.
New South Wales (Wālz), 470, 474, 475, 477.
New York City, 426, 505, 511, 512.
New York State, 481, 494, 497–499, 502, 509, 517.
New Zēa′-land, **478–480**.
Nī-ag′-a-ra Falls, 450, 511.
Nic-a-rā′-guä Canal, 437, 521.
Nī′-gėr, 237, 417, 452, 455.
Nī′-gėr Territories, 455.
Nīle, 417, 418, 424, 426, 430–434, 437, 438, 451, 455.
Nip-on′, 406.
Nom′-ads, 376, 377, 426.
Nor′-folk, 495.
North Ä-mer′-i-ca, **487–522**.
North Car-ō-lī′-na, 502.
North Dä-kō′-ta, 358, 498.
Nor′-way, 532.
Nō′-vä Scō′-tia (scō′-sha), 517, 518.
Nū′-bi-ans, 424.
Nyäs′-sä, Lake, 457.

Ōak′-land, 514.
Ō-ā′-ses (sez), 421, 428.

Oats, 495, 496.
Ob′-e-lisk, 435.
Ocean Currents, 492.
Ō-hī′-ō, 497, 498, 499, 500, 505, 506, 509.
Ō-hī′-ō River, 490, 491.
Ōk-lä-hō′-mą, 514.
Ō′-ma-hä, 500.
Ō-män′, 374.
On-tā′-ri-ō, Lake, 517.
Orange Free State, 444, 445.
Orange River, 449.
Or′-e-gon, 496, 498.
Ō-sä′-kä, 412.
Osh′-kosh, 495.
Ot′-*t*ä-wâ, 516, 517, 518.
Ot′-*t*ō-mąn Empire, **365–372**.

Pā-çif′-ic, Islands of, 482.
Pā-çif′-ic Ocean, 548.
Pä-gō′-dä, 388, 402, 410.
Pä-lä-wän′, Fig. 338.
Pal′-es-*t*i*n*e, 367, 369–371.
Pan-a-mä′ Canal, 437, 521.
Panay (pä-nī′), Fig. 338.
Papuans (pap′-ö-äns), 480.
Pat′-ėr-sọn, 510.
Pâ*w*-tuck′-et, 503.
Pē-king′, 358, 397, 405.
Pen*n*-syl-vā′-ni-ą, 480, 490, 494, 498, 499, 504, 505, 506, 507, 509.
Pē-ō′-ri-ą, 500.
Pėr′-sia (shą), 358, 374–376.
Pėrth, Fig. 338.
Petroleum, 506, 507, 531.
Phil-ą-del′-phi-ą, 397, 503, 505, 512, 513.
Phil′-ip-*p*i*n*e Islands, 481, 482, 502, 516, 524, 534, 535, 537.
P*i*ēd′-mont Plateau, 489.
P*i*ē-ter-mar′-itz-burg (its-börg), Fig. 297.
Pig Iron, 528.
Pig′-mies (miz), 454.
Pit*t*s-burg (bėrg), 505, 507, 512.
Pō, 382.
Pōrt′ au (ō) Prinçe, Fig. 400.
Pōrt′-lą*n*d, Me., 494, 495.
Pōrt′-lą*n*d, Ore., 495, 511, 514.
Pōr′-tō Ri′-co (rē′-kō), 502, 515, 534.
Pōrt Said (sä-ēd′), 437, 439.
Pōr′-tū-gąl, 391, 425, 440, 458.
Prœē-tō′-ri-ą, Fig. 297.
Prāi′-ri*e*s, 490.
Pribilof (prē′-bēl-of) Islands, 515.
Prince Edward Island, 517.
Prov -i-dence, 503, 508.
Pueblo (pweb′-lō), 507.
Pū′-ġet Sound, 491.
Pyramids, 425, 432–435.

Quebec (kwē-bek′), 518.
Queens′-lą*n*d, 470, 472, 474.

Railways, 511–514, 532.
Raleigh (râ′-li), 503.
Rän-göon′, 390.
Re*a*d′-ing, 505.
Red Men, see Indians.
Red Sea, 354.
Reunion (rā-ö′-nyon), 459.
R*h*ōde Is′-lą*n*d, 502.
Rice, 535, 536.
Rich′-mọnd, 503.
Rō-ą-nōk*e*′, 505.
Roch′-es-tėr, 501, 503, 505.
Rock′-y Mountains, 490, 491.
Rō′-mąn Empire, 368.
Rō′-mąns, 368, 435.
Rubber, 521, 530, 531.
Russia (rush′-ą), **378–381**, 523–528, 530, 531, 532, 533.
Rut′-lą*n*d, 509.

Sac-rą-men′-tō, 374.
Sag′-i-nâ*w*, 495.
Są-hä′-rą Desert, 419, 427–430.
St. He-lē′-ną, 458.

St. John, 517, 518.
St. John's, 517.
St. Joseph, 501.
St. Lâw'-rėnçe, 512, 517, 518.
St. Louis (lō'-is), 438, 500, 501, 503, 512, 513.
St. Paul, 501, 512.
Salt Lake City, 504.
Sä-mär', Fig. 338.
Sä-mō'-ą, 484, 516.
San An-tō'-ni-ō (nē), Fig. 360.
San Fran-çis'-cō, 511, 513, 514, 516.
San Juan (hwan), 515.
San'-tą Fé (fā), Fig. 362.
San Sal'-vä-dōr, Fig. 399.
Są-van'-*nąh*, 494.
Są-van'-nąs, 418, 419.
Scran'-ton, 505.
Sē-at'-*tle*, 495, 511.
Shä*h*, 376.
Shang-hai' (hī), 400, 401, 405.
Shas'-tą, Mt., 491.
Sheep, Â*u*s-trā'-li-ą, 471.
Sheep Raising, 498, 517, 526.
Sī-am', 394, 395.
Sī-bē'-ri-ą, 357, 358, 359, **378–381**, 396.
Si-er'-*rą* (sē) Lē-ō'-nē, 456.
Si-er'-*rą* (sē) Ne-vä'-dą Mts., 491.
Silk, 535.
Silver, 508, 509, 520, 529.
Sin-gą-pō*re'*, 395.
Sit'-ką, 515.
Smyrna (smėr'-ną), 367.
Snake River, 382.
Sō-mä'-li-land (lē), 456.
Som'-ėr-vil*le*, 511.
South Af'-ri-cą, 426, 444, 471, 530.
South Â*u*s-trā'-li-ą, 470, 474, 475.
South Car-ō-lī'-ną, 502.
South Dā-kō'-tą, 358, 491, 509.
Southern States, 386, 494, 535.
Spā*i*n, 440, 443, 456, 458, 471, 519, 524, 525, 528.
Spice Islands, 482.
Spring'-f*i*ēld, Mass., 507.
Stan'-ley (li) Pool, 452, 453.
Steppes (steps), 379.
Strā*i*ts Set'-*tle*-ments, 394, 395.
Sudan (sö-dän'), 455.
Su-ez' (sö), 438.
Su-ez' (sö) Canal, 438, 439.
Su-ez' (sö) Isthmus, 354, 438.
Sugar, 503, 515, 516, 519, 521, 522, 534, 535.
Sugar Beets, 534.
Sulu (sö-lö') Islands, Fig. 338.
Su-mä'-trą (sö), 481.
Su-pē'-ri-or (sö), 495, 506.
Su-pē'-ri-or (sö), Lake, 491.
Swit'-zėr-land, 537.
Syd'-ney, 476, 477.
Syr'-ą-cū*se*, 505, 510.
Syrian (sir'-i-ąn) Desert, 370.

Tą-cō'-mą, 495, 511.
Tä-fi-let' (fē), 428.
Tän-gän-yi'-ką (yē), 446, 457.
Tän-gier' (jēr), 443.
Tär'-tars (tą*r*z), 368.
Täsh-kend', 380, 381.
Tas-mā'-ni-ą (taz), 463, 465, 470, 474, 475.
Tâ*u*n'-tọn, 503.
Tea, 383, 384, 390, 515, 535, 536.
Te-he*r*än', 376, 378.
Ten-*nės*-sē*e*, Fig. 360.
Tex'-ąs, 480, 495, 499, 500, 502, 519.
Tī-bē'-ri-ąs, 371.
Tib'-et, 356, 396, 397.
Tientsin (tē-en'-tsēn'), 405.
Tif-lis' (lēs), 380.
Tī'-gris, 368, 372.
Tim-buk'-tu (tö), 428, 455.
Ti-mōr' (tē), 481.
Tobacco, 503, 515, 516, 519, 521.
Tō'-ki-ō (kē), 409, 410, 411.
Tō-lē'-dō, 500, 506.

Tonga (tong′-gą) Islands, 482.
Tō-ron′-tō, 517, 518.
Trade Winds, 464.
Trans-väal′, 445, 446, 447, 448, 451.
Treb′-i-zond, 367.
Tren′-tọn, 509.
Trip′-ō-li, 427, **440–444**.
Troy, 505, 510.
Tun′-drąs, 359, 378.
Tū′-nis, 427, **440–444**.
Tur-kes-tän′ (tėr), 378, 379, 380.
Tur-kes-tän′ (tėr), Chinese, 396.
Turkey (tėr′-ki), **365–372**, 374, 376, 436.
Tutuila (tö-tö-il′-ą), 516.
Typhoons (tī-föns′), 397.

United Kingdom, 526, 527, 528, 532, 538.
Ū-nī′-ted Stātes, 354, 358, 359, 378, 379, 382, 383, 402, 407, 408, 427, 448, 461, 465, 466, 471, 475, 482, **489–516**, 518, **523–541**.
Ū′-tăh, 504, 509.
Ū′-ti-cą, 503.

Van-cou′-vėr (kö), 518.
Ven-e-zuē′-lą (zwē), 534.
Ve′-rą Cruz (kröz), 520.
Vėr-mont′, 509.
Viceroy, 390, 392.
Vic-tō′-ri-ą (Australia), 470, 477.
Vic-tō′-ri-ą, 518.
Vic-tō′-ri-ą Falls, 417, 450.
Vic-tō′-ri-ą Ny-an′-zą, 457, 458.
Vir-ġin′-i-ą (vėr), 506.
Vlä-di-vos-tok′ (dē), 381.
Vol-cā′-nōes, 481.

Wäl′-fisch Bay, 451.
Wâsh′-ing-tọn, 514.
Wâsh′-ing-tọn, State, 491, 517.
Wâ′-tėr-bury (ber-i), 508.
Wealth, 533.
Wel′-ląnd Canal, 512.
Wel′-žing-tọn, 480.
West Âus-trā′-li-ą, 470.
West Indies (in′-diz), 397, 521, 537, 538.
West Vir-ġin′-i-ą (vėr), 490, 505.
Wheat, 497, 498, 517, 519, 525.
Wheel′-ing, 505.
White Mountains, 488.
Wil′-ming-tọn, 504, 505.
Win′-*ni*-peg, 517.
Wis-con′-sin, 494, 495.
Wool, 527.
Worcester (wůs′-tėr), 507.
Wu′-chang, 404.
Wy-ō′-ming (wī), 498.

Yä-köut′, 379.
Yang′-tsē-ki-ang′ (kē), 355, 397.
Yär′-mouth, 517.
Yel′-*lōw*-stōne Park, 478, 492.
Yō-kō-hä′-mą, 407, 409, 411.
Yū-cą-tan′, 521.
Yū-kon, 515.

Zam-bē′-si (zē), 417, 449, 451.
Zän-zi-bär′, 459.
Zulu (zö′-lö), 422, 428, 445, 446.
Zululand (zö′-lö-land), 446.